



Math Practice Pages

Patterns & Relationships

Whole Number Multiplication & Division

Fractions, Decimals, and Percents

Measurement, Data, and Geometry

Word Problem Analysis

***These are skills that we have covered
within our math outcomes this year***

Patterns & Relationships



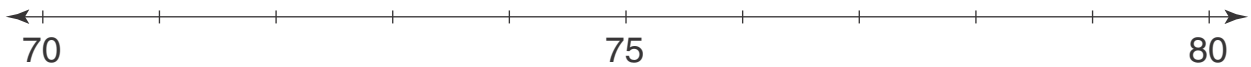


Rounding to the Nearest Ten and Hundred

Materials 8 inches of yarn per pair

To round 77 to the nearest ten, answer 1 to 6.

1. Plot 73 on the number line below.



2. Use the yarn to help you decide whether 73 is closer to 70 or 80. Which is it closer to? _____
3. So, what is 73 rounded to the nearest ten? _____
4. Plot 77 on the number line above.
5. Use the yarn to help you decide whether 77 is closer to 70 or 80. Which is it closer to? _____
6. So, what is 77 rounded to the nearest ten? _____

To round 336 to the nearest hundred, answer 7 to 12.

7. Plot 380 on the number line below.



8. Use the yarn to help you decide whether 380 is closer to 300 or 400. Which is it closer to? _____
9. So, what is 380 rounded to the nearest hundred? _____
10. Plot 336 on the number line above.
11. Use the yarn to help you decide whether 336 is closer to 300 or 400. Which is it closer to? _____
12. So, what is 336 rounded to the nearest hundred? _____

Name _____



Rounding to the Nearest Ten and Hundred (continued)

Round 459 to the nearest hundred by answering 13 to 17.

13. What digit is in the hundreds place in 459? _____

14. What digit is to the right of the 4? _____

15. Is the digit to the right of 4 less than 5,
or is it 5 or greater? _____

If the digit to the right of the number is 5 or more, the number rounds up. If the digit is less than 5, the number rounds down.

16. Do you need to round 459 up or down? _____

17. Change the 4 to the next higher digit and change the 5 and 9 to 0s. So, what is 459 rounded to the nearest hundred? _____

Round to the nearest ten.

18. 54 19. 37 20. 81 21. 65

Round to the nearest hundred.

22. 609 23. 351 24. 491 25. 850

26. A rancher has 43 cattle in his herd. To the nearest ten, how many cattle are in the rancher's herd? _____

27. A new computer costs \$876. To the nearest hundred, how many dollars does the computer cost? _____

28. **Reasoning** Round 549 to the nearest hundred and round 551 to the nearest hundred. Do you get the same answers? Explain.



Reading and Writing 4-Digit Numbers

1. Write 2,537 in the place-value chart below.

thousands	hundreds	tens	ones

2. What place is the 2 in? _____ So its value is 2,000.
3. What place is the 5 in? _____ So what is its value? _____
4. What place is the 3 in? _____ So what is its value? _____
5. What place is the 7 in? _____ So what is its value? _____
6. In expanded form, 2,537 equals 2,000 + _____ + _____ + 7.
7. Write 2,537 in words.

_____ thousand, _____ hundred thirty- _____

8. Write 6,084 in the place value chart below.

thousands	hundreds	tens	ones

9. What place is the 6 in? _____ So what is its value? _____
10. What place is the 0 in? _____ So it has no value.
11. What place is the 8 in? _____ So what is its value? _____
12. What place is the 4 in? _____ So what is its value? _____
13. In expanded form, 6,084 equals _____ + _____ + _____.
14. Write 6,084 in words.

_____ thousand, _____

Name _____



Reading and Writing 4-Digit Numbers (continued)

Write each number in standard form.

15. $1,000 + 500 + 20 + 7$

16. nine thousand, four hundred

17. $8,000 + 100 + 30$

18. five thousand, six hundred one

19. $4,000 + 500 + 2$

20. six thousand, eight hundred ninety

Write each number in expanded form.

21. 3,716

22. 2,091

Write the value of the underlined digit.

23. 1,863

24. 9,504

25. 5,129

26. 183

27. Write 3,995 in words.

28. Write 4,716 in words.

29. Use the digits 1, 5, 7, and 3. Write the greatest possible four-digit number using each of the digits only once.

30. **Reasoning** What number would make the number sentence $5,000 + 800 + \blacksquare + 6 = 5,826$ true?

Name _____



Rounding Numbers Through Millions

Round 4,307,891 to the nearest million by answering 1 to 5.

1. What digit is in the millions place? _____
2. What digit is to the right of the 4? _____
3. Is the digit to the right of 4 less than 5,
or is it 5 or greater? _____

If the digit to the right of the number is 5 or more, the number rounds up. If the digit is less than 5, the number rounds down.

4. Do you need to round up or down? _____
5. Keep the 4 and change the other digits to 0s. What
is 4,307,891 rounded to the nearest million? _____

Round 6,570,928 to the nearest hundred thousand by
answering 6 to 11.

6. Which digit is in the hundred thousands place? _____
7. What digit is to the right of the 5? _____
8. Is the digit to the right of 5 less than 5,
or is it 5 or greater? _____
9. Do you need to round up or down? _____
10. Change the 5 to the next highest digit and change
the other digits to 0s. What is 6,570,928 rounded
to the nearest hundred thousand? _____
11. What is 6,570,928 rounded to the nearest thousand? _____

Name _____



Rounding Numbers Through Millions (continued)

Round 1,581,267 to each place.

12. ten _____

13. hundred _____

14. thousand _____

15. ten thousand _____

16. hundred thousand _____

17. million _____

Round each number to the nearest ten.

18. 3,194,764 _____

19. 8,967,001 _____

Round each number to the nearest hundred.

20. 1,265,906 _____

21. 6,906,294 _____

Round each number to the nearest thousand.

22. 8,070,126 _____

23. 9,264,431 _____

Round each number to the nearest ten thousand.

24. 7,514,637 _____

25. 2,437,894 _____

Round each number to the nearest hundred thousand.

26. 1,395,384 _____

27. 3,992,460 _____

Round each number to the nearest million.

28. 4,578,952 _____

29. 5,022,121 _____

30. 2,439,019 _____

31. 8,888,888 _____

32. **Reasoning** A number rounded to the nearest million is 4,000,000. One less than the same number rounds to 3,000,000 when rounded to the nearest million. What is the number?

Name _____



Comparing and Ordering Numbers Through Millions

Compare 45,872,723, and 45,891,827 by answering 1 to 4.

1. Write the numbers so the digits are lined up.

_____ , _____ , _____
_____ , _____ , _____

2. Starting on the left, in the ten millions place, compare the digits in each place. In what place do the digits become different? _____

3. Compare the ten thousands. 90,000 _____ 70,000

4. Write $>$, $<$, or $=$. 45,891,872 _____ 45,872,723.

Order these numbers from least to greatest by answering 5 to 10.

734,876,934

72,859,277

73,884,900

7,119,020

5. Write the numbers so the digits are lined up by answering 5 to 10.

_____ , _____ , _____
_____ , _____ , _____
_____ , _____ , _____
_____ , _____ , _____

If a number has fewer digits than all the others, it is the least.

6. Which number is the least? _____

If a number has more digits than all the others, it is the greatest.

7. Which number is the greatest? _____

Name _____



Comparing and Ordering Numbers Through Millions (continued)

8. The other two numbers have the same number of digits. Since both have a 7 in the ten millions place, compare the millions. $2,000,000$ _____ $3,000,000$
9. Write $>$, $<$, or $=$. $72,859,277$ _____ $73,884,900$.
10. Write the numbers in order from least to greatest.

Write $>$, $<$, or $=$ in each blank.

11. $1,689,000$ _____ $1,679,000$ 12. $43,914,500$ _____ $43,925,000$
13. $62,441,300$ _____ $62,329,500$ 14. $518,495,000$ _____ $517,954,000$
15. 45 million _____ 42 million 16. 17 million _____ 7 million

Order the numbers from greatest to least.

17. $96,500$; $8,400,509$; $8,946,000$; $81,000,900$

18. $746,589,415$; $497,956,881$; $749,300,000$; $719,995,800$

19. Which of these four countries has the smallest area?
Brazil, 3,286,472 square miles;
Canada, 3,851,788 square miles;
China, 3,704,426 square miles;
U.S., 3,617,827 square miles

20. **Reasoning** How can you quickly tell that $87,243,572$ is less than $870,243,572$?



Exponents and Place Value

1. Complete the table.

Exponential Expression	Expanded Form	Standard Form
10^0	none	1
10^1	10	10
10^2	10×10	
10^3		
10^4		
10^5		
10^6		

2. **Reasoning** Compare the exponents to the number of zeros in each number when written in standard form. What do you notice?

3. Write 7,245,000 in expanded form with exponents by filling in the blanks.

7,245,000

= 7,000,000 + _____ + _____ + _____

= $(7 \times 1,000,000)$ + _____ + _____ + _____

= (7×10^6) + _____ + _____ + _____

4. Write 4,507,298 in expanded form three ways.

4,000,000 +

$(4 \times 1,000,000)$ +

(4×10^6) +

Name _____



Exponents and Place Value (continued)

Write each number in expanded form three ways.

5. 65,784

6. 3,170,245

7. 725,418

8. A library has eight million, two hundred twenty-three thousand, twelve books. Write this number in expanded form using exponents.

9. **Reasoning** How can you tell what exponent to use with the 6 when writing 2,682,943 in expanded form with exponents?



Order of Operations

To evaluate an expression, you must follow the order of operations.

1. Follow the steps to simplify the expression.

$$\begin{array}{r}
 (21 + 16) - 6 \times 4 \\
 \downarrow \\
 = \underline{\hspace{2cm}} - 6 \times 4 \quad \text{Do parentheses first.} \\
 \downarrow \\
 = 37 - \underline{\hspace{2cm}} \quad \text{Do multiplication before subtraction.} \\
 \downarrow \\
 = \underline{\hspace{2cm}} \quad \text{Subtract.}
 \end{array}$$

So, $(21 + 16) - 6 \times 4 = \underline{\hspace{2cm}}$.

Order of Operations

- Parentheses
- Multiplication and/or Division from left to right
- Addition and/or Subtraction from left to right

2. Follow the steps to find the value of $(15 - c) + 24 \div 9$ when $c = 8$.

$$\begin{array}{r}
 (15 - c) + 27 \div 9 \\
 \downarrow \\
 = (15 - \underline{\hspace{2cm}}) + 27 \div 9 \quad \text{Put 8 in for } c. \\
 \downarrow \\
 = \underline{\hspace{2cm}} + 27 \div 9 \quad \text{Do parentheses first.} \\
 \downarrow \\
 = 7 + \underline{\hspace{2cm}} \quad \text{Do division before addition.} \\
 \downarrow \\
 = \underline{\hspace{2cm}} \quad \text{Add.}
 \end{array}$$

So, when $c = 8$, $(15 - c) + 27 \div 9 = \underline{\hspace{2cm}}$

3. What do you do first to simplify $5 \times 8 - (3 + 5) \div 4$?

**Order of Operations** (continued)

Use the order of operations to simplify each expression.

4. $2 \times (1 + 5)$

5. $5 + (6 \div 3)$

6. $(7 - 3) + (4 + 5)$

7. $49 \div (10 - 3)$

8. $(2 \times 3) + (4 \times 2)$

9. $8 + (3 \times 4)$

10. $(6 \times 2) + (8 \div 4)$

11. $15 + (25 \times 4) - 52$

12. $18 - (12 - 9) \times 3$

13. $6 - 2 \times 3 + 12$

14. $(12 \div 3) + (7 \times 2)$

15. $9 + 16 \div (3 + 1)$

Evaluate each expression for $a = 20$.

16. $a + 5 \div 5 - 3$

17. $a - (12 + 3)$

18. $(13 + 6) - (a - 14)$

Find the value of each expression for $g = 4$.

19. $6 + 5 \times 2 + g$

20. $(22 - g) \div (3 \times 2)$

21. $75 + (25 \times g) - 67$

22. William has 3 jars of marbles that he wishes to share equally with his brother. In the first jar there are 12 marbles, in the second jar there are 21 marbles, and in the third jar there are 17 marbles. Write an expression with parentheses to show how many marbles each boy will get. Then simplify the expression.
23. **Reasoning** Eddie simplified the expression $8 - 2 \times 3 + 10$ and got an answer of 28. Is Eddie correct? If not, what did he do wrong?

Multiplication & Division

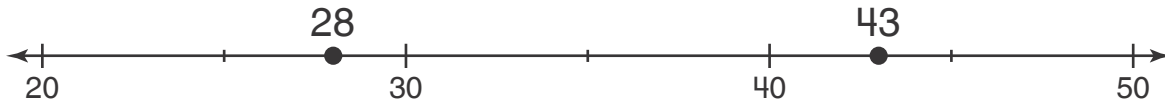




Estimating Sums

When Joseppi added 43 and 28, he got a sum of 71. To check that this answer is reasonable, use estimation.

1. Round each addend to the nearest ten.



43 rounded to the nearest ten is _____.

28 rounded to the nearest ten is _____.

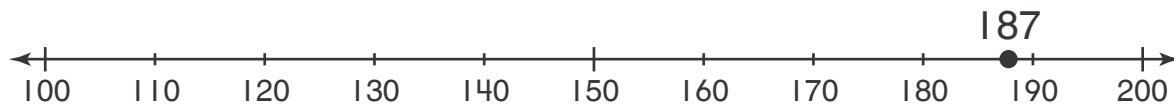
2. Add the rounded numbers.

$$40 + 30 = \underline{\hspace{2cm}}$$

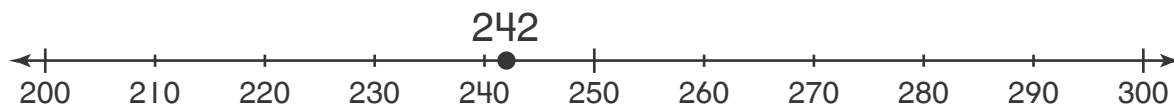
Since 71 is close to 70, the answer is reasonable.

When Ling added 187 and 242, she got a sum of 429. To check that this answer is reasonable, use estimation.

3. Round each addend to the nearest hundred.



187 rounded to the nearest hundred is _____.



242 rounded to the nearest hundred is _____.

4. Add the rounded numbers.

$$200 + 200 = \underline{\hspace{2cm}}$$

Since 429 is close to 400, the answer is reasonable.

Name _____



Estimating Sums (continued)

Estimate by rounding to the nearest ten.

5. $71 + 36$

6. $24 + 81$

7. $43 + 91$

8. $54 + 66$

9. $68 + 27$

10. $19 + 93$

11. $89 + 75$

12. $54 + 33$

Estimate by rounding to the nearest hundred.

13.
$$\begin{array}{r} 367 \\ + 141 \\ \hline \end{array}$$

14.
$$\begin{array}{r} 791 \\ + 632 \\ \hline \end{array}$$

15.
$$\begin{array}{r} 506 \\ + 249 \\ \hline \end{array}$$

16.
$$\begin{array}{r} 458 \\ + 891 \\ \hline \end{array}$$

17. $940 + 190$

18. $675 + 460$

19. $531 + 776$

20. $369 + 481$

21. $151 + 260$

22. $705 + 936$

23. **Reasoning** Jaime was a member of the school chorus for 3 years. Todd was a member of the school band for 2 years. The chorus has 43 members and the band has 85 members. About how many members do the two groups have together?

24. Luis sold 328 sport bottles and Jorge sold 411. About how many total sport bottles did the two boys sell?

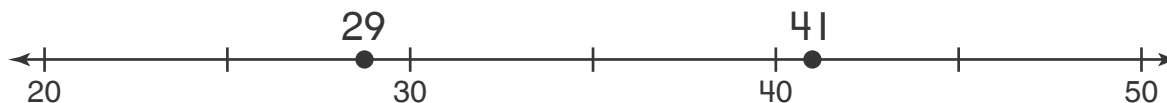
25. **Reasoning** What is the largest number that can be added to 46 so that the sum is 70 when both numbers are rounded to the nearest ten? Explain.



Estimating Differences

When Jarvis subtracted $41 - 29$, he got a difference of 12.
To check that this answer is reasonable, use estimation.

1. Round each number to the nearest ten.



41 rounded to the nearest ten is _____.

29 rounded to the nearest ten is _____.

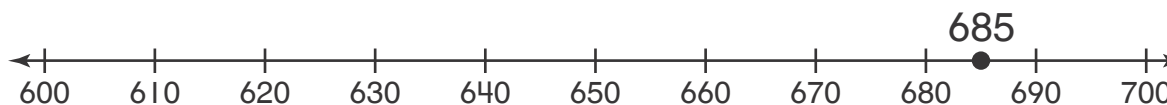
2. Subtract the rounded numbers.

$$40 - 30 = \underline{\hspace{2cm}}$$

Since 12 is close to 10, the answer is reasonable.

DaNitra subtracted $685 - 279$ and got a difference of 406.
To check that this answer is reasonable, use estimation.

3. Round each number to the nearest hundred.



685 rounded to the nearest hundred is _____.



279 rounded to the nearest hundred is _____.

4. Subtract the rounded numbers.

$$700 - 300 = \underline{\hspace{2cm}}$$

Since 406 is close to 400, the answer is reasonable.

**Estimating Differences** (continued)

Estimate by rounding to the nearest ten.

$$\begin{array}{r} 5. \quad 47 \\ - 19 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 82 \\ - 34 \\ \hline \end{array}$$

$$7. \quad 67 - 51$$

$$8. \quad 94 - 48$$

$$\begin{array}{r} 9. \quad 71 \\ - 12 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 65 \\ - 49 \\ \hline \end{array}$$

$$11. \quad 89 - 24$$

$$12. \quad 51 - 38$$

$$\begin{array}{r} 13. \quad 93 \\ - 45 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 88 \\ - 32 \\ \hline \end{array}$$

$$15. \quad 57 - 18$$

$$16. \quad 28 - 17$$

Estimate by rounding to the nearest hundred.

$$\begin{array}{r} 17. \quad 586 \\ - 195 \\ \hline \end{array}$$

$$\begin{array}{r} 18. \quad 941 \\ - 362 \\ \hline \end{array}$$

$$19. \quad 442 - 181$$

$$20. \quad 861 - 298$$

$$\begin{array}{r} 21. \quad 418 \\ - 125 \\ \hline \end{array}$$

$$\begin{array}{r} 22. \quad 546 \\ - 234 \\ \hline \end{array}$$

$$23. \quad 945 - 119$$

$$24. \quad 681 - 132$$

$$\begin{array}{r} 25. \quad 935 \\ - 464 \\ \hline \end{array}$$

$$\begin{array}{r} 26. \quad 322 \\ - 176 \\ \hline \end{array}$$

$$27. \quad 709 - 649$$

$$28. \quad 550 - 214$$

29. **Reasoning** Marlee has collected baseball cards for 3 years. Kin has collected baseball cards for 2 years. Marlee has 845 baseball cards and Kin has 612 baseball cards. About how many more baseball cards does Marlee have than Kin? _____

30. **Reasoning** What is the smallest number that can be subtracted from 723 so that the difference is 200 when both numbers are rounded to the nearest hundred? Explain.

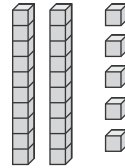


Adding Two-Digit Numbers

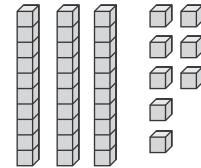
Materials place-value blocks: 6 tens and 13 ones per pair

There are 25 boys and 38 girls at the library. How many students total?

1. Show 25 using place-value blocks.



2. Show 38 using place-value blocks.



3. Add $25 + 38$ to find the total students.

Add the ones. $5 + 8 =$ _____

4. Do you have more than 10 ones? _____

5. Since you have 13 ones, regroup them into tens and ones

13 ones = _____ ten and _____ ones

6. Record the 3 ones at the bottom of the ones column of the Tens and Ones chart. Record the 1 ten at the top of the tens column.

	Tens	Ones
	2	5
+	3	8
<hr/>		

7. Add the tens. Add the 1 ten that you regrouped, the 2 tens from the 25, and the 3 tens from the 38.

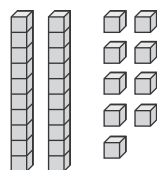
1 ten + 2 tens + 3 tens = _____ tens

8. Record the tens at the bottom of the tens column of the Tens and Ones chart.

9. So, $25 + 38 =$ _____

How many students are at the library? _____.

10. Use place value-blocks and the Tens and Ones chart to add $46 + 29$.



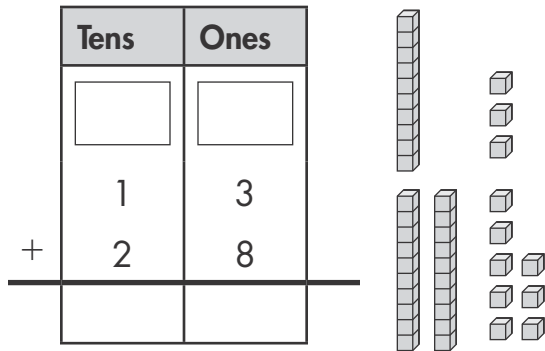
	Tens	Ones
	4	6
+	2	9
<hr/>		



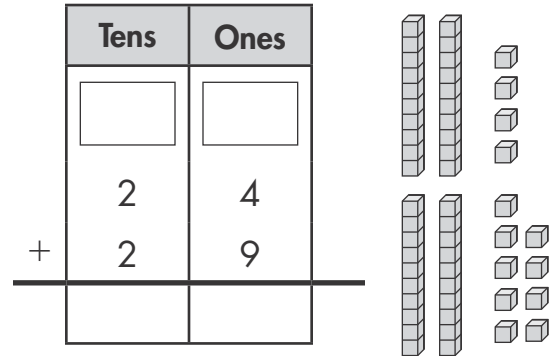
Adding Two-Digit Numbers (continued)

Add.

11.



12.



Add. Use a tens and ones chart if you like.

13.
$$\begin{array}{r} 58 \\ + 17 \\ \hline 75 \end{array}$$

14.
$$\begin{array}{r} 56 \\ + 11 \\ \hline \end{array}$$

15.
$$\begin{array}{r} 18 \\ + 19 \\ \hline \end{array}$$

16.
$$\begin{array}{r} 20 \\ + 28 \\ \hline \end{array}$$

17.
$$\begin{array}{r} 46 \\ + 45 \\ \hline \end{array}$$

18.
$$\begin{array}{r} 36 \\ + 17 \\ \hline \end{array}$$

19.
$$\begin{array}{r} 17 \\ + 49 \\ \hline \end{array}$$

20.
$$\begin{array}{r} 45 \\ + 14 \\ \hline \end{array}$$

21.
$$\begin{array}{r} 32 \\ + 66 \\ \hline \end{array}$$

22.
$$\begin{array}{r} 26 \\ + 37 \\ \hline \end{array}$$

23.
$$\begin{array}{r} 22 \\ + 65 \\ \hline \end{array}$$

24.
$$\begin{array}{r} 33 \\ + 33 \\ \hline \end{array}$$

25.
$$\begin{array}{r} 21 \\ + 39 \\ \hline \end{array}$$

26.
$$\begin{array}{r} 17 \\ + 29 \\ \hline \end{array}$$

27.
$$\begin{array}{r} 36 \\ + 16 \\ \hline \end{array}$$

28.
$$\begin{array}{r} 64 \\ + 27 \\ \hline \end{array}$$

29. A puppy weighs 15 pounds. His mother weighs 65 pounds. How much do the puppy and his mother weigh together? _____

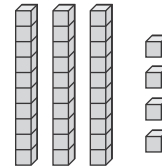
30. **Reasoning** What number do you add to 19 to get 30? _____



Subtracting Two-Digit Numbers

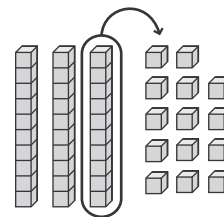
Materials place-value blocks: 3 tens and 20 ones per pair

There are 34 kittens and 16 puppies. How many more kittens than puppies are there?



- Show 34 with place-value blocks.
- Do you have enough ones to take away 6 ones? _____

- Regroup 1 ten into 10 ones. Show this with your place-value blocks.



3 tens and 4 ones = _____ tens and 14 ones

- Cross out the 3 tens in the Tens and Ones chart and write 2 above it. Cross out the 4 ones and write 14 above it.
 - Now, take away 6 ones and write the difference at the bottom of the ones column.
- 14 ones – 6 ones = _____ ones
- Subtract the tens and write the difference at the bottom of the tens column.

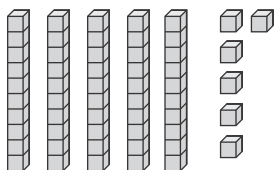
Tens	Ones
3	4
- 1	- 6

2 tens – 1 ten = _____ ten

- So, $34 - 16 =$ _____.

How many more kittens than puppies are there? _____

- Use place-value blocks and the Tens and Ones chart to subtract $56 - 27$.



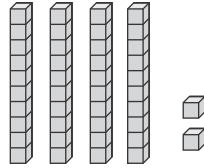
Tens	Ones
5	6
- 2	- 7

**Subtracting Two-Digit Numbers** (continued)

Subtract.

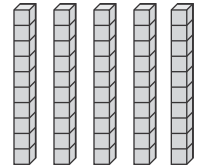
9.

	Tens	Ones
	4	2
–	1	9
<hr/>		



10.

	Tens	Ones
	5	0
–	2	4
<hr/>		



Subtract. Use a Tens and Ones chart if you like.

$$\begin{array}{r} 11. \quad 35 \\ - 17 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 80 \\ - 38 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 45 \\ - 39 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 61 \\ - 13 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 74 \\ - 45 \\ \hline \end{array}$$

$$\begin{array}{r} 16. \quad 22 \\ - 18 \\ \hline \end{array}$$

$$\begin{array}{r} 17. \quad 50 \\ - 32 \\ \hline \end{array}$$

$$\begin{array}{r} 18. \quad 48 \\ - 20 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad 95 \\ - 69 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad 34 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 21. \quad 61 \\ - 26 \\ \hline \end{array}$$

$$\begin{array}{r} 22. \quad 90 \\ - 74 \\ \hline \end{array}$$

23. Thompson has 32 flowers. If he plants 18 flowers in the front yard, how many will he have left? _____

24. **Reasoning** In which problem do you need to regroup to subtract, $53 - 28$ or $58 - 23$? Explain.

Name _____



Mental Math Strategies

You can add or subtract mentally by breaking apart numbers.

Find the difference of $647 - 235$.

1. Break apart each number into its expanded form.

$$647 = 600 + \underline{\hspace{2cm}} + \underline{\hspace{2cm}} \qquad 235 = \underline{\hspace{2cm}} + 30 + \underline{\hspace{2cm}}$$

2. Subtract the hundreds in both numbers. $600 - 200 = \underline{\hspace{2cm}}$

3. Subtract the tens in both numbers. $40 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

4. Subtract the ones in both numbers. $\underline{\hspace{2cm}} - 5 = \underline{\hspace{2cm}}$

5. Add the differences of the hundreds, tens, and ones.

$$400 + 10 + 2 + = \underline{\hspace{2cm}}$$

6. So, $647 - 235 = \underline{\hspace{2cm}}$.

You can also add or subtract mentally by using compensation.

Find the sum of $235 + 197$.

7. Find the number closest to a multiple of 100 and round.

197 rounded to the nearest hundred is $\underline{\hspace{2cm}}$.

8. Solve the new problem. $235 + 200 = \underline{\hspace{2cm}}$

9. Since you rounded 197 to 200, did you add too much or too little to 235? $\underline{\hspace{2cm}}$

10. How much more is 200? $\underline{\hspace{2cm}}$

11. Since 200 is 3 more than 197, you added too much. You now must subtract 3 from the sum to compensate for adding 3. $435 - 3 = \underline{\hspace{2cm}}$

12. So, $235 + 197 = \underline{\hspace{2cm}}$.

Name _____



Mental Math Strategies (continued)

Add or subtract mentally. Use breaking apart.

13. $313 + 216$ **14.** $842 + 115$ **15.** $283 + 114$ **16.** $254 + 621$

17. $365 + 423$ **18.** $457 + 222$ **19.** $947 - 516$ **20.** $786 - 314$

21. $466 - 325$ **22.** $579 - 256$ **23.** $688 - 232$ **24.** $875 - 231$

Add or subtract mentally. Use compensation.

25. $462 + 399$ **26.** $618 + 296$ **27.** $256 + 195$ **28.** $326 + 295$

29. $145 + 197$ **30.** $328 + 598$ **31.** $540 - 298$ **32.** $742 - 394$

33. $916 - 497$ **34.** $732 - 296$ **35.** $867 - 395$ **36.** $683 - 499$

37. On vacation, the Gonzales family traveled 595 miles in one day. Their destination is 949 miles from their home. How much farther do they need to travel to get there?

38. Reasoning To subtract $767 - 496$, Wang first found $767 - 500 = 267$. Now should he add 4 to 267 or subtract 4 from 267?



Adding and Subtracting Money

To find $\$2.67 + \3.25 , add as you would with whole numbers.

- Add the pennies.
- Since you have 12 pennies, regroup them into dimes and pennies.

12 pennies = _____ dime

and _____ pennies

- Record the 2 pennies at the bottom of the pennies column of the chart. Record the 1 dime at the top of the dimes column.
- Add the dimes. $1 + 6 + 2 =$ _____ dimes
Record this value at the bottom of the dimes column.
- Add the dollars. $2 + 3 =$ _____ dollars
Record this value at the bottom of the dollars column.
- Write the answer in dollars and cents by placing the dollar sign and decimal point.

So, $\$2.67 + \$3.25 =$ _____.

	Dollars	Dimes	Pennies
	<input type="text"/>	<input type="text"/>	<input type="text"/>
	\$2	. 6	7
+	3	. 2	5
<hr/>			
	<input type="text"/>	<input type="text"/>	<input type="text"/>

To find $\$5.73 - \1.91 , subtract as you would with whole numbers.

- Subtract the pennies. $3 - 1 =$ _____
Record this value at the bottom of the pennies column.

- Since you cannot subtract 9 dimes from 7 dimes, regroup 1 dollar into 10 dimes.

5 dollars and 7 dimes = 4 dollars

and _____ dimes

- Record this regrouping in the chart. Cross out the 5 dollars and write 4 above it. Change the 7 dimes to 17 dimes.

	Dollars	Dimes	Pennies
	<input type="text"/>	<input type="text"/>	<input type="text"/>
	\$5	. 7	3
-	1	. 9	1
<hr/>			
	<input type="text"/>	<input type="text"/>	<input type="text"/>

**Adding and Subtracting Money** (continued)

10. Subtract the dimes. $17 - 9 =$ _____ dimes
Record this value at the bottom of the dimes column.
11. Subtract the dollars. $4 - 1 =$ _____ dollars
Record this value at the bottom of the dollars column.
12. Write the answer in dollars and cents by placing the dollar sign and decimal point.

So, $\$5.73 - \$1.91 =$ _____.

Add or subtract.

13. $\begin{array}{r} \$2.92 \\ + 0.74 \\ \hline \end{array}$

14. $\begin{array}{r} \$2.78 \\ + 0.94 \\ \hline \end{array}$

15. $\begin{array}{r} \$0.99 \\ + 2.49 \\ \hline \end{array}$

16. $\begin{array}{r} \$5.70 \\ - 1.35 \\ \hline \end{array}$

17. $\begin{array}{r} \$2.30 \\ + 1.95 \\ \hline \end{array}$

18. $\begin{array}{r} \$7.15 \\ - 5.09 \\ \hline \end{array}$

19. $\begin{array}{r} \$4.84 \\ - 1.36 \\ \hline \end{array}$

20. $\begin{array}{r} \$6.65 \\ + 3.25 \\ \hline \end{array}$

21. $\begin{array}{r} \$8.42 \\ - 2.08 \\ \hline \end{array}$

22. $\begin{array}{r} \$9.11 \\ + 0.09 \\ \hline \end{array}$

23. $\begin{array}{r} \$5.03 \\ + 3.58 \\ \hline \end{array}$

24. $\begin{array}{r} \$6.45 \\ - 1.26 \\ \hline \end{array}$

25. $\begin{array}{r} \$3.58 \\ + 0.29 \\ \hline \end{array}$

26. $\begin{array}{r} \$7.40 \\ - 1.26 \\ \hline \end{array}$

27. $\begin{array}{r} \$5.68 \\ + 0.90 \\ \hline \end{array}$

28. $\begin{array}{r} \$4.41 \\ - 4.17 \\ \hline \end{array}$

29. **Reasoning** Which is easier for you to subtract, $\$3.87 - \1.63 or $\$4.15 - \2.89 ? Explain.

Name _____



Writing Multiplication Stories

Follow 1 to 5 below to write a multiplication story for 5×4 that is about hamburgers and pickle slices.

1. 5×4 means _____ groups of _____.
2. So, 5×4 might mean _____ hamburgers with _____ pickle slices each.
3. Write a story about 5 hamburgers with 4 pickle slices each.

Mrs. _____ went through a drive thru and bought _____ hamburgers. Each hamburger had _____ pickle slices. How many _____ were there in all?

4. Draw a picture to find how many pickle slices there were in all.

$$5 \times 4 = \underline{\hspace{2cm}}$$

5. How many pickle slices were there in all? _____
6. Write a multiplication story for 6×3 about nests and eggs.

Mr. _____ found _____ nests. Each nest had _____ eggs. How many _____ did he find in all?

7. Draw a picture to find how many eggs he found in all.

$$6 \times 3 = \underline{\hspace{2cm}}$$

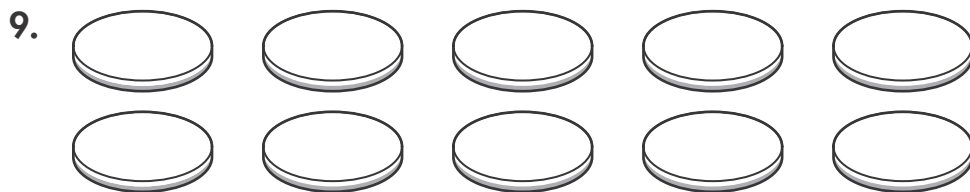
8. How many eggs did he find in all? _____

Name _____



Writing Multiplication Stories (continued)

Write a multiplication story. Then find the product.



$$2 \times 5 = \underline{\quad}$$

Write a multiplication story for Exercises 10 and 11.
Draw a picture to find each product.

10. $6 \times 6 = \underline{\quad}$

11. $4 \times 5 = \underline{\quad}$

12. There are 4 houses on Oak Street. Four people live in each house. How many people live on Oak Street?



Writing Division Stories

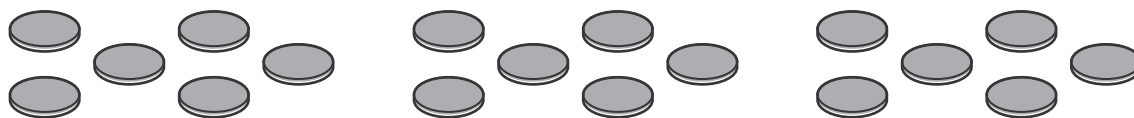
Materials counters, 18 per student or pair of students

To write a division story for $18 \div 3$ that is about 18 grapes and 3 sisters, fill in the blanks below.

- Mrs. _____ put _____ grapes into a bowl. Mrs. _____'s daughters, _____, _____, and _____ shared the grapes equally. How many _____ did each sister get?

- Use counters to show how many grapes there were in all.

- Divide the 18 counters into 3 equal groups.



- How many grapes did each sister get? _____ grapes

- Write a division story for $10 \div 5$ about apples and bags.

Mr. _____ bought _____ apples. He put _____ apples into each bag. How many _____ did he use?

- Use counters to show how many apples he bought.

- Divide the 10 counters into groups with 5 in each group.

- How many bags did he use? _____ bags

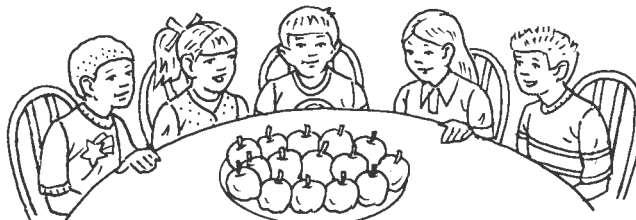
Name _____



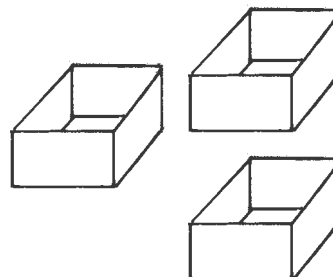
Writing Division Stories (continued)

Write a division story for each number sentence below. Use the pictures to help. Then use counters or draw a picture to solve.

9. $15 \div 5 =$ _____



10. $12 \div 3 =$ _____



Write a division story. Then use counters or draw a picture to solve.

11. $14 \div 2 =$ _____



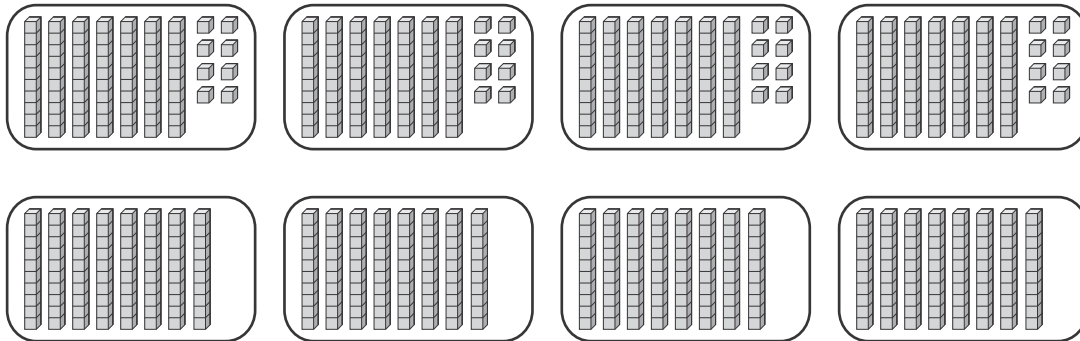
Name _____

Estimating Products

During Field Day, the students at Sunrise Elementary were placed into 4 activity groups. Each group had 78 students. About how many students were in all 4 groups?

Estimate 4×78 .

1. What is 78 rounded to the nearest ten? _____
2. What is 4×80 ? _____
3. What is a good estimate for 4×78 ? _____
4. About how many students were in all 4 groups during Field Day? _____ students
5. **Reasoning** How do the place-value blocks below show that 320 is a good estimate for 4×78 ?



Estimate 6×345 .

6. What is 345 rounded to the nearest hundred? _____
7. What is 6×300 ? _____
8. What is a good estimate for 6×345 ? _____

Name _____



Estimating Products (continued)

Estimate each product.

9. 7×38

10. 8×34

11. 5×91

12. 4×57

13. 7×47

14. 3×72

15. 6×52

16. 2×75

17. 3×87

18. 2×623

19. 5×177

20. 4×532

21. 3×318

22. 4×863

23. 2×804

24. Each of the eight delivery trucks carried 94 packages. About how many packages were there altogether?

25. There are 43 carrots in each of 7 bags of carrots. About how many carrots altogether?

26. **Reasoning** What is a good estimate for 6×26 ? Explain how you estimated.

27. **Reasoning** Mark estimated the product of 4×54 to be about 280. Was his estimation reasonable? Explain your reasoning.

Name _____



Estimating Quotients

The city soccer league has 47 children, between the ages of 8 and 10, signed up to play soccer. The people in charge of the soccer league want to put 9 children on each team. About how many teams should they make?

Estimate $47 \div 9$ by answering 1 to 4.

1. What number is close to 47 and can be easily divided by 9? _____
2. What is $45 \div 9$? _____
3. What is a good estimate of $47 \div 9$? _____
4. About how many soccer teams should the city make? _____

You can use compatible numbers to help you estimate a quotient.

Estimate $543 \div 8$ by answering 5 to 10.

5. Is $5 \div 8$ a basic fact? _____
6. Is $54 \div 8$ a basic fact? _____
7. What is a basic fact that is close to $54 \div 8$? _____
8. Is 560 close to 543? _____
9. What is $560 \div 8$? _____
10. What is a good estimate of $543 \div 8$? _____

Estimate $615 \div 2$ by answering 11 to 14.

11. Is $6 \div 2$ a basic fact? _____
12. Is 600 close to 615? _____
13. What is $600 \div 2$? _____
14. What is a good estimate of $615 \div 2$? _____
15. **Reasoning** Show how you would estimate $2,398 \div 4$?

Name _____



Estimating Quotients (continued)

Estimate each quotient. Write the numbers you used.

16. $75 \div 4 =$

17. $31 \div 2 =$

18. $824 \div 9 =$

19. $465 \div 9 =$

20. $230 \div 7 =$

21. $630 \div 7 =$

22. $56 \div 3 =$

23. $181 \div 6 =$

24. $414 \div 7 =$

25. $564 \div 6 =$

26. $729 \div 8 =$

27. $311 \div 5 =$

28. $3 \overline{)923}$

29. $9 \overline{)269}$

30. $5 \overline{)345}$

31. $6 \overline{)117}$

32. $2 \overline{)81}$

33. $6 \overline{)552}$

34. The Spencer family drove in their car to their favorite vacation spot. Mrs. Spencer likes to travel at a rate of 55 miles per hour. The Spencers traveled 849 miles in 3 days. Estimate the number of miles driven each day.

35. A manufacturer is packaging paper towels. If 6 rolls complete a package, about how many packages can be made from 327 rolls?

36. **Reasoning** Is 30 a reasonable quotient for $264 \div 9$? Explain your reasoning.

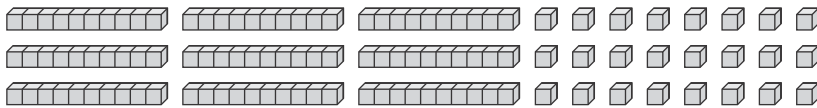


Multiplication and Arrays

Materials place-value blocks: 9 tens and 40 ones for each group

To multiply 3×38 , answer 1 to 7.

1. Show an array of 3 rows with 38 in each row, using place-value blocks.



2. How many tens in all? _____ tens

3. 9 tens = _____

4. How many ones in all? _____

5. 24 ones = _____

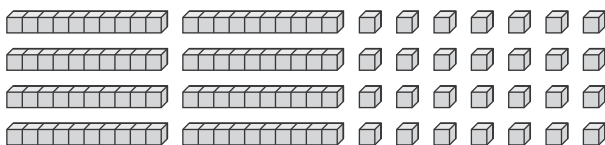
6. Add the tens and the ones together.

$$9 \text{ tens} + 24 \text{ ones} = \underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

7. What is 3×38 ? _____

To multiply 4×27 , answer 8 to 11.

8. Show an array of 4 rows with 27 in each row, using place-value blocks.



9. How many tens in all? _____ tens = _____

10. How many ones in all? _____

11. What is 4×27 ? $4 \times 27 = \underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

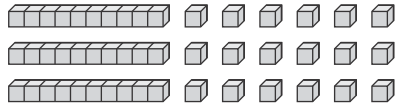
Name _____



Multiplication and Arrays (continued)

Find each product. Draw a picture to help.

12. 3×16



13. 5×21

14. 2×23

15. 3×18

Find each product. Draw a picture to help you multiply with greater numbers.

16. $3 \times 35 =$ _____

17. $6 \times 23 =$ _____

18. $5 \times 18 =$ _____

19. $2 \times 34 =$ _____

20. $6 \times 14 =$ _____

21. $4 \times 28 =$ _____

22. $7 \times 13 =$ _____

23. $5 \times 42 =$ _____

24. **Reasoning** If you draw an array to find 4×35 , how many tens will you draw? _____ tens

How many ones will you draw? _____ ones

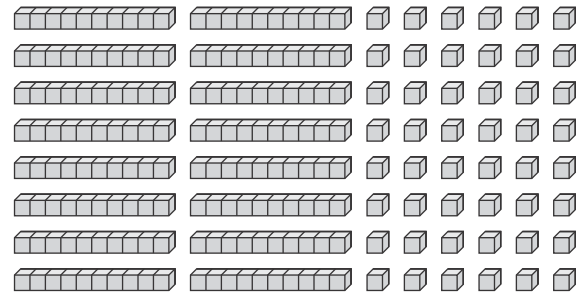
So, $4 \times 35 =$ _____.



Breaking Apart Numbers to Multiply

Materials place-value blocks: 16 tens and 48 ones per student or pair

Find 8×26 by answering 1 to 6.



1. Show an array of 8 rows with 26 in each row, using place-value blocks.

2. $26 =$ _____ tens + _____ ones
 $=$ _____ + _____

3. Multiply the ones by 8 and write the product on the left.

$8 \times$ _____ ones = _____ ones

$$\begin{array}{r} 26 \\ \times 8 \\ \hline 8 \times 6 \rightarrow \quad \quad \\ 8 \times 20 \rightarrow \quad \quad \\ \hline \end{array}$$

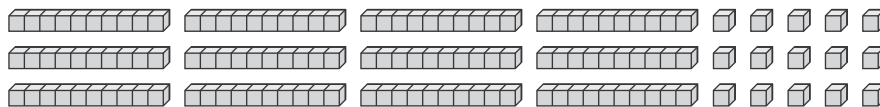
4. Multiply the tens by 8 and write the product on the left.

$8 \times$ _____ tens = _____ tens = _____

5. Add the products together and write the sum below the line, on the left.

6. So, $8 \times 26 =$ _____.

7. Find 3×45 .



$$\begin{array}{r} 45 \\ \times 3 \\ \hline 3 \times 5 \rightarrow \quad \quad \\ 3 \times 40 \rightarrow \quad \quad \\ \hline \end{array}$$

8. Find 4×29 . Use place-value blocks or draw pictures to help.

$$\begin{array}{r} 29 \\ \times 4 \\ \hline 4 \times 9 \rightarrow \quad \quad \\ 4 \times 20 \rightarrow \quad \quad \\ \hline \end{array}$$

**Breaking Apart Numbers to Multiply** (continued)

Find each product.

$$\begin{array}{r} 9. \quad 32 \\ \times 3 \\ \hline 6 \text{ multiply ones} \\ + 90 \text{ multiply tens} \\ \hline 96 \text{ product} \end{array}$$

$$\begin{array}{r} 10. \quad 42 \\ \times 5 \\ \hline 10 \text{ multiply ones} \\ + 200 \text{ multiply tens} \\ \hline \text{product} \end{array}$$

$$\begin{array}{r} 11. \quad \$64 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 45 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 64 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad \$23 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 32 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 16. \quad 53 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 17. \quad 47 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 18. \quad \$38 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad 67 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad 74 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 21. \quad 18 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 22. \quad 56 \\ \times 4 \\ \hline \end{array}$$

23. **Reasoning** Carlo wants to buy 3 model airplanes. If each airplane costs \$29, how much money does he need? _____

24. Salvo called 5 friends and talked 34 minutes with each friend. How many minutes was Salvo on the phone? _____ minutes

25. **Reasoning** James multiplied 5×54 by breaking 54 apart into 5 tens and 4 ones. Then he multiplied 5×4 and 5×5 , and then added $20 + 25$. Where did James make his mistake?



Interpret the Remainder

Materials counters

Division is an operation that is used to find the number of equal groups or the number of objects that are in each group. Sometimes there is an extra amount. The leftover amount is called the **remainder**.

Can Leroy sort his collection of 14 sports cards into 3 equal piles?



Leroy can't sort 14 sports cards into 3 equal piles. He can put 4 cards in each of the 3 piles, but 2 sports cards are left. The remainder is 2 and can be written as R2; $14 \div 3$ is 4 R2. Leroy can either give the extra sports cards to a friend or save them until he gets enough to make another pile of 4.

Use counters to solve the following problems.

1. 28 stickers, 5 stickers on a page

How many pages are full? _____

What is the remainder? _____

What does the remainder mean? _____

2. 19 books, 6 books on a shelf

How many shelves are full? _____

What is the remainder? _____

What does the remainder mean? _____

3. 34 marbles, 5 marbles in a group

How many groups are complete? _____

What is the remainder? _____

What does the remainder mean? _____

Name _____



Interpret the Remainder (continued)

Solve each of the following problems.

4. 62 buttons, 7 buttons on a shirt
How many shirts can be made? _____
What is the remainder? _____
What does the remainder mean? _____

5. 95 pens, 10 pens in a package
How many complete packages of pens are there? How many pens are extra?

6. 40 action figures, 6 action figures in a row
How many complete rows of action figures are there? How many action figures are extra?

7. 74 apples, 9 apples in a bag
How many bags are full? How many apples are extra?

8. Robert claims that 57 game tokens can be shared equally among himself and 5 friends without having any extra tokens. Is Robert correct? Explain.

9. Mary is organizing her collection of 37 crayons in groups of 5. How many complete groups will she have? Are there any extra crayons? What can Mary do with any extra crayons?

Name _____



Divisibility by 2, 3, 5, 9, and 10

A number such as 256 is divisible by a number like 2 if $256 \div 2$ has no remainder. If 256 is a multiple of 2, then 256 is divisible by 2.

Use the divisibility rules and answer 1 to 10 to determine if 256 is divisible by 2, 3, 5, 9, or 10.

Divisibility Rules	
Number	Rule
2	The last digit is even: 0, 2, 4, 6, 8.
3	The sum of the digits is divisible by 3.
5	The last digit ends in a 0 or 5.
9	The sum of the digits is divisible by 9.
10	The ones digit is a 0.

1. Is the last digit in 256 an even number? _____
2. Is 256 divisible by 2? _____
3. Is the last digit in 256 a 0 or 5? _____
4. Is 256 divisible by 5? _____
5. Is 256 divisible by 10? _____
6. What is the sum of the digits of 256? $2 + 5 + 6 =$ _____
7. Is the sum of the digits of 256 divisible by 3? _____
8. Is 256 divisible by 3? _____
9. Is the sum of the digits of 256 divisible by 9? _____
10. Is 256 divisible by 9? _____

Use the divisibility rules to determine if 720 is divisible by 2, 5, 9, or 10.

11. Is 720 divisible by 2? _____
12. Is 720 divisible by 5? _____
13. Is 720 divisible by 10? _____
14. Is 720 divisible by 9? _____

Name _____



Divisibility by 2, 3, 5, 9, and 10 (continued)

Test each number to see if it is divisible by 2, 3, 5, 9, or 10. List the numbers each is divisible by.

15. 56

16. 78

17. 182

18. 380

19. 105

20. 126

21. 4,311

22. 8,356

23. 2,580

24. 7,265

25. 4,815

26. 630

27. Feliz has 225 baseball trophies. He wants to display his trophies on some shelves with an equal number of trophies on each. He can buy shelves in packages of 5, 9, or 10. Which shelf package should he NOT buy? Explain.

28. **Reasoning** Are all numbers that are divisible by 5 also divisible by 10? Explain your reasoning.

29. **Reasoning** Are all numbers that are divisible by 10 also divisible by 5? Explain your reasoning.



Exponents

Scott is planning to run in a race and asked 2 friends to sponsor him. The following week, each friend asked 2 more friends to sponsor Scott. If this continued, how many sponsors did Scott have after seven weeks?

1. Complete the table.

Week	Number of Sponsors (Expanded Form)	Number of Sponsors (Exponential Form)	Number of Sponsors (Standard Form)
1	2	2^1	2
2	2×2	2^2	4
3	$2 \times 2 \times 2$	2^3	8
4	$2 \times 2 \times 2 \times 2$	2^4	
5	$2 \times 2 \times 2 \times 2 \times 2$		
6			
7			

2. How many sponsors will Scott have on the 10th week?

Expanded form: _____

Exponential form: _____

Standard form: _____

3. If Scott started by asking 3 friends to sponsor him and each of those friends asked three friends, how many sponsors would he have on the 4th week?

Expanded form: _____

Exponential form: _____

Standard form: _____

4. Use the table above to complete the following patterns. $16, 8, 4, 2, \underline{\hspace{2cm}}$

$2^4, 2^3, 2^2, 2^1, \underline{\hspace{2cm}}$

$2^0 = 1$. Any number, except zero, to the zero power is 1.

5. What is 5^0 ? _____

Name _____



Exponents (continued)

Write each expression in exponential form.

6. $4 \times 4 \times 4$

7. $7 \times 7 \times 7 \times 7 \times 7$

8. $6 \times 6 \times 6$

9. $10 \times 10 \times 10 \times 10$

10. 5×5

11. $3 \times 3 \times 3 \times 3$

Write each expression in standard form.

12. 2^7

13. 1^7

14. 6^3

15. 83^1

16. 4^3

17. 11^2

18. 2^8

19. 10^4

20. 7^2

21. 0^5

22. 3^3

23. 12^0

Write each expression in expanded form.

24. 12^4

25. 8^3

26. 4^4

27. 32^5

28. 3^4

29. 200^2

30. **Reasoning** Is 2^5 the same as 5^2 ? Check by writing both numbers in standard form.

Name _____



Estimating Products

Mrs. Wilson's class at Hoover Elementary School is collecting canned goods. Their goal is to collect 600 cans. There are 21 students in the class and each student agrees to bring in 33 cans. Answer 1 to 7 to find if the class will meet their goal.

Estimate 21×33 and compare the answer to 600.

Round each factor to get numbers you can multiply mentally.

1. What is 21 rounded to the nearest ten? _____
2. What is 33 rounded to the nearest ten? _____
3. Multiply the rounded numbers. $20 \times 30 =$ _____

The answer is the same as the number needed to meet the goal.

4. 21 was rounded to 20. Was it rounded up or down? _____
5. 33 was rounded to 30. Was it rounded up or down? _____
6. Is 21×33 more or less than 21×30 ? _____
7. Will the goal be reached? _____

Hoover Elementary School had a goal to collect 12,000 canned goods. There are 18 classes and each class collects 590 cans. Answer 8 to 13 to find if the school will meet their goal.

Estimate 18×590 and compare the answer with 12,000.

Round each factor to get numbers you can multiply mentally.

8. What is 18 rounded to the nearest ten? _____
9. What is 590 rounded to the nearest hundred? _____
10. Multiply the rounded numbers. $20 \times 600 =$ _____

The answer is the same as the number needed to meet the goal.

Name _____



Estimating Products (continued)

11. 18 was rounded to 20. Was it rounded up or down? _____
590 was rounded to 600. Was it rounded up or down? _____
12. Is 18×590 more or less than 20×600 ? _____
13. Will the goal be reached? _____

Round each factor so that you can estimate the product mentally.

- | | | |
|---------------------------------------|---------------------------------------|---------------------------------------|
| 14. 71×382

_____ | 15. 27×62

_____ | 16. 45×317

_____ |
| 17. 58×176

_____ | 18. 831×24

_____ | 19. 16×768

_____ |
| 20. 87×67

_____ | 21. 373×95

_____ | 22. 57×722

_____ |
23. Debra spends 42 minutes each day driving to work. About how many minutes does she spend driving to work each month? _____
24. **Reasoning** If 64×82 is estimated to be 60×80 , would the estimate be an overestimate or an underestimate? Explain.



Dividing by Multiples of 10

Use the multiplication sentences to find each quotient. Look for a pattern.

- $4 \times 20 = \underline{\hspace{2cm}}$ $80 \div 20 = \underline{\hspace{2cm}}$
 $40 \times 20 = \underline{\hspace{2cm}}$ $800 \div 20 = \underline{\hspace{2cm}}$
 $400 \times 20 = \underline{\hspace{2cm}}$ $8,000 \div 20 = \underline{\hspace{2cm}}$
- What basic division fact is used in each quotient above?
 $\underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

Use basic facts and a pattern to find $2,400 \div 80$. Answer 3 to 5.

- What basic division fact can be used to find $2,400 \div 80$?
 $\underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

In $24 \div 8 = 3$, 24 is the dividend, 8 is the divisor, and 3 is the quotient.

- Look for a pattern.

Number Sentence	Zeros in the Dividend	Zeros in the Divisor	Zeros in the Quotient
$240 \div 80 = \underline{\hspace{2cm}}$	1	1	0
$240 \div 8 = \underline{\hspace{2cm}}$			
$2,400 \div 8 = \underline{\hspace{2cm}}$			
$2,400 \div 80 = \underline{\hspace{2cm}}$			

Complete.

Zeros in the dividend – Zeros in the divisor = $\underline{\hspace{2cm}}$ in the quotient

- Reasoning** Use the pattern to explain why $2,400 \div 80$ has one zero.

Name _____



Dividing by Multiples of 10 (continued)

Divide. Use mental math.

6. $300 \div 30 =$ _____

7. $60 \div 20 =$ _____

8. $200 \div 40 =$ _____

9. $240 \div 60 =$ _____

10. $490 \div 70 =$ _____

11. $450 \div 90 =$ _____

12. $100 \div 50 =$ _____

13. $2,700 \div 90 =$ _____

14. $1,800 \div 60 =$ _____

15. $3,500 \div 70 =$ _____

16. $1,500 \div 30 =$ _____

17. $800 \div 40 =$ _____

18. $640 \div 80 =$ _____

19. $3,600 \div 60 =$ _____

20. $140 \div 70 =$ _____

21. $1,200 \div 20 =$ _____

22. $8,100 \div 90 =$ _____

23. $560 \div 80 =$ _____

24. $600 \div 30 =$ _____

25. $400 \div 20 =$ _____

26. $2,400 \div 60 =$ _____

27. $1,200 \div 40 =$ _____

28. $2,500 \div 50 =$ _____

29. $2,100 \div 70 =$ _____

30. $4,500 \div 90 =$ _____

31. $480 \div 80 =$ _____

32. $450 \div 50 =$ _____

33. Dan has a coin collection. His sister Michaela has just started collecting. Michaela has 20 coins, and Dan has 400 coins. About how many times larger is Dan's collection?

34. Hector must store computer CDs in cartons that hold 40 CDs each. How many cartons will he need to store 2,000 CDs?

35. **Reasoning** Write another division problem with the same answer as $2,700 \div 90$.

Name _____



Estimating Quotients with Two-Digit Divisors

A charity needs to mail 209 boxes. The workers can mail 28 boxes each day. About how many days do they need to mail all the boxes?

Estimate the quotient of $209 \div 28$ by answering 1 to 7.

1. What is 28 rounded to the nearest ten? _____
2. To find compatible numbers for 209 and 30, list some of the multiples of 3.
3, 6, _____, _____, _____, _____, _____, _____
3. Which multiple of 3 is closest to the first digit or two of 209? _____
4. What is 209 rounded to the nearest compatible number? _____
5. What is $210 \div 30$? _____
6. What is a good estimate for $209 \div 28$? _____
7. About how many days do the workers need to mail all the boxes? _____ days

Estimate the quotient of $4,156 \div 72$ by answering 8 to 10.

8. What is 72 rounded to the nearest ten? _____
9. What is 4,156 rounded to the nearest compatible number? _____
10. What is a good estimate for $4,156 \div 72$?
_____ \div _____ = _____

Estimate the quotient of $8,273 \div 43$ by answering 11 to 13.

11. What is 43 rounded to the nearest ten? _____
12. What is 8,273 rounded to the nearest compatible number? _____
13. What is a good estimate for $8,273 \div 47$?
_____ \div _____ = _____

Name _____



Estimating Quotients with Two-Digit Divisors (continued)

Estimate each quotient. Write the compatible numbers you used.

14. $465 \div 89 =$

15. $2,304 \div 74 =$

16. $637 \div 82 =$

17. $3,561 \div 37 =$

18. $181 \div 61 =$

19. $4,149 \div 73 =$

20. $564 \div 62 =$

21. $7,198 \div 82 =$

22. $3,118 \div 57 =$

23. $1,590 \div 42 =$

24. $1,235 \div 19 =$

25. $7,118 \div 77 =$

26. $32 \overline{)902}$

27. $62 \overline{)1,130}$

28. $28 \overline{)2,112}$

29. The school band is raising money to go on a trip. The 68 members hope to raise \$6,400. The trip will be 4 days in length. Estimate the amount that each member should raise.

Fractions, Decimals, & Percents



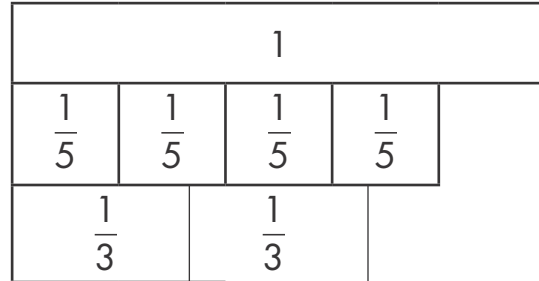


Using Models to Compare Fractions

Materials fraction strips

Use $>$, $<$, or $=$ to compare $\frac{4}{5}$ and $\frac{2}{3}$ by answering 1 to 3.

1. Show 1, $\frac{4}{5}$, and $\frac{2}{3}$ with fraction strips.



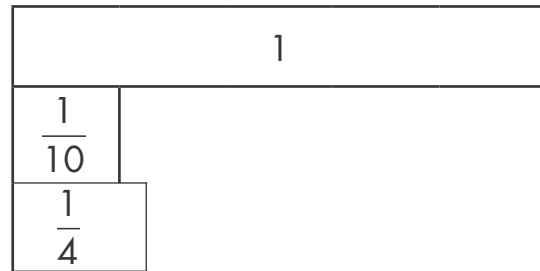
2. Compare. Which is greater in total length, $\frac{4}{5}$ or $\frac{2}{3}$? _____

3. Since $\frac{4}{5}$ is longer than $\frac{2}{3}$, $\frac{4}{5}$ is **greater than** $\frac{2}{3}$. Write $>$, $<$, or $=$.

$$\frac{4}{5} \bigcirc \frac{2}{3}$$

Compare $\frac{1}{10}$ and $\frac{1}{4}$ by answering 4 to 6.

4. Show 1, $\frac{1}{10}$, and $\frac{1}{4}$ with fraction strips.



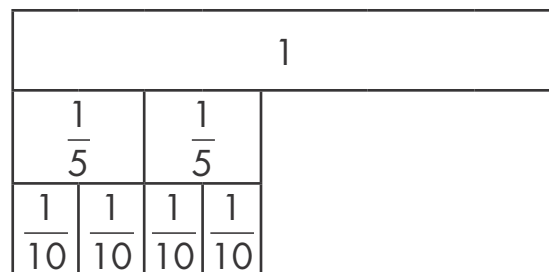
5. Compare. Which is greater in total length, $\frac{1}{10}$ or $\frac{1}{4}$? _____

6. Since $\frac{1}{10}$ is shorter than $\frac{1}{4}$, $\frac{1}{10}$ is **less than** $\frac{1}{4}$. Write $>$, $<$, or $=$.

$$\frac{1}{10} \bigcirc \frac{1}{4}$$

Compare $\frac{2}{5}$ and $\frac{4}{10}$ by answering 7 to 9.

7. Show 1, $\frac{2}{5}$, and $\frac{4}{10}$ with fraction strips.



8. Compare. Which is greater in total length, $\frac{2}{5}$ or $\frac{4}{10}$? _____

9. Since $\frac{2}{5}$ and $\frac{4}{10}$ are the same length,

$\frac{2}{5}$ is **equal to** $\frac{4}{10}$. Write $>$, $<$, or $=$.

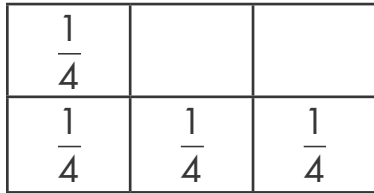
$$\frac{2}{5} \bigcirc \frac{4}{10}$$



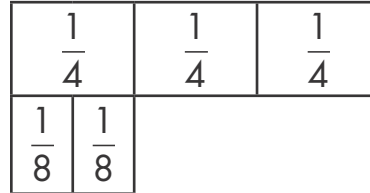
Using Models to Compare Fractions (continued)

Compare. Write $<$, $>$, or $=$.

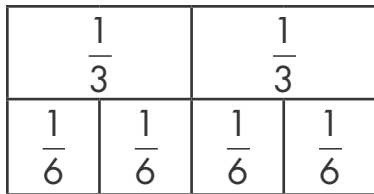
10. $\frac{1}{4} \bigcirc \frac{3}{4}$



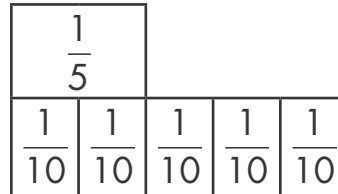
11. $\frac{3}{4} \bigcirc \frac{2}{8}$



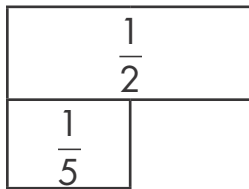
12. $\frac{2}{3} \bigcirc \frac{4}{6}$



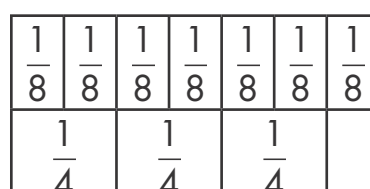
13. $\frac{1}{5} \bigcirc \frac{5}{10}$



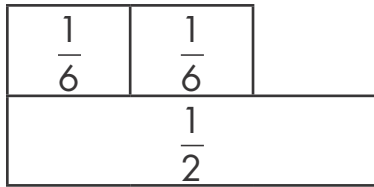
14. $\frac{1}{2} \bigcirc \frac{1}{5}$



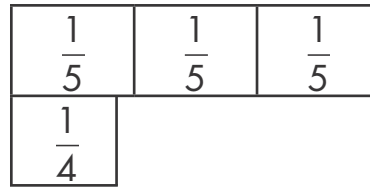
15. $\frac{7}{8} \bigcirc \frac{3}{4}$



16. $\frac{2}{6} \bigcirc \frac{1}{2}$



17. $\frac{3}{5} \bigcirc \frac{1}{4}$



18. **Reasoning** Give 3 fractions with different denominators that are less than $\frac{4}{6}$.

19. **Reasoning** Two students are writing stories. Eric's story is $\frac{2}{3}$ of a page. Alba's story is $\frac{4}{6}$ of a page. Whose story is longer?



Comparing Fractions on the Number Line

Materials 21 index cards for each pair; crayons or markers,
13 craft sticks for each pair; 1 yard of yarn for each pair

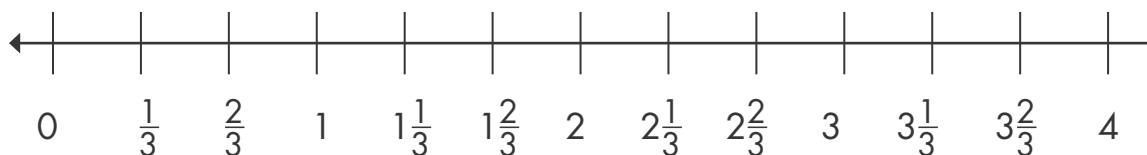
- Write numbers on index cards, one number on each card.
One partner writes the following numbers.

$0, \frac{1}{3}, \frac{2}{3}, 1, 1\frac{1}{3}, 1\frac{2}{3}, 2, 2\frac{1}{3}, 2\frac{2}{3}, 3, 3\frac{1}{3}, 3\frac{2}{3}$, and 4

The other partner writes the following numbers.

$\frac{1}{3}, \frac{2}{3}, 1\frac{1}{3}, 1\frac{2}{3}, 2\frac{1}{3}, 2\frac{2}{3}, 3\frac{1}{3}$, and $3\frac{2}{3}$

- Create a number line, like the one shown below, with the yarn, craft sticks, and the first set of index cards.



- Shuffle the other set of cards. Both you and your partner draw a card.
- Match the numbers on the cards you drew with numbers on the number line you created.

Which number is farther to the right? _____

On the number line, fractions increase in value from left to right. So the fraction farther to the right is greater.

- Write a comparison of your two numbers, such as $2\frac{2}{3} < 3\frac{1}{3}$. _____

Set the first two cards aside. Continue drawing cards and writing comparisons until all the cards are gone.

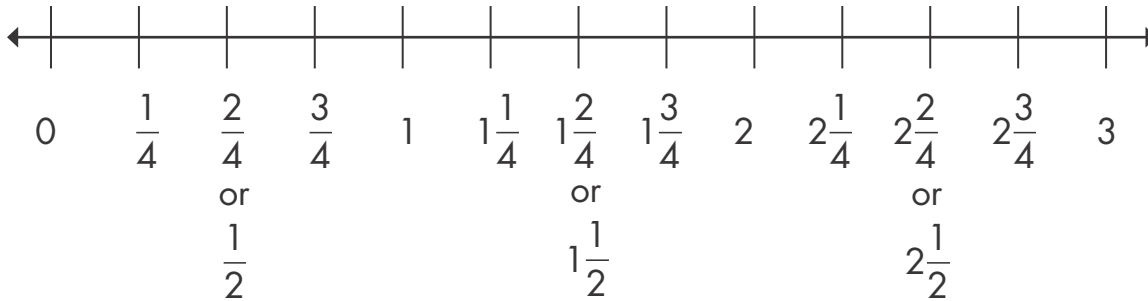
6. _____ 7. _____

8. _____ 9. _____



Comparing Fractions on the Number Line (continued)

For 10–18, use the number line below. Compare. Write $<$, $>$, or $=$.



10. $\frac{3}{4} \bigcirc \frac{1}{4}$

11. $1\frac{1}{4} \bigcirc 2\frac{1}{2}$

12. $1\frac{1}{2} \bigcirc 1\frac{3}{4}$

13. $1\frac{1}{4} \bigcirc \frac{1}{4}$

14. $2\frac{3}{4} \bigcirc 2\frac{1}{4}$

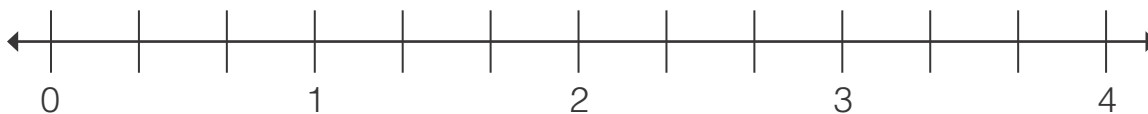
15. $1\frac{1}{2} \bigcirc 1\frac{1}{2}$

16. $\frac{1}{4} \bigcirc \frac{1}{2}$

17. $1\frac{3}{4} \bigcirc 1\frac{3}{4}$

18. $\frac{3}{4} \bigcirc \frac{1}{2}$

For 19–24, use the number line below. Compare. Write $<$, $>$, or $=$.



19. $\frac{2}{3} \bigcirc \frac{1}{3}$

20. $2\frac{1}{3} \bigcirc 1\frac{2}{3}$

21. $1\frac{1}{3} \bigcirc 2\frac{1}{3}$

22. $\frac{3}{3} \bigcirc 1$

23. $2\frac{2}{3} \bigcirc 2\frac{1}{3}$

24. $\frac{2}{3} \bigcirc 1\frac{1}{3}$

25. **Reasoning** Why is $2\frac{1}{8}$ greater than $1\frac{7}{8}$, even though $\frac{1}{8}$ is less than $\frac{7}{8}$?

26. **Reasoning** Explain how you can use the number line above to compare $6\frac{1}{3}$ and $6\frac{2}{3}$.



Equivalent Fractions

Materials crayons or markers

1. Show $\frac{2}{3}$ by coloring 2 of the $\frac{1}{3}$ strips.
2. Color as many $\frac{1}{6}$ strips as it takes to cover the same region as the $\frac{2}{3}$.

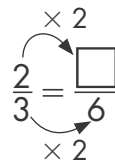
1					
$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{3}$	
$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$

How many $\frac{1}{6}$ strips did you color? _____

3. So, $\frac{2}{3}$ is equivalent to four $\frac{1}{6}$ strips. $\frac{2}{3} = \frac{\square}{6}$

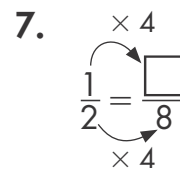
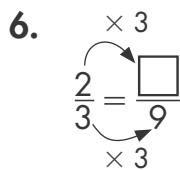
You can use multiplication to find a fraction equivalent to $\frac{2}{3}$. To do this, multiply the numerator and the denominator by the same number.

4. What number is the denominator of $\frac{2}{3}$ multiplied by to get 6?



5. Since the denominator was multiplied by 2, the numerator must also be multiplied by 2. Put the product of 2×2 in the numerator of the second fraction above.

Multiply the numerator and denominator of each fraction by the same number to find a fraction equivalent to each.



8. Show $\frac{9}{12}$ by coloring 9 of the $\frac{1}{12}$ strips.
9. Color as many $\frac{1}{4}$ strips as it takes to cover the same region as $\frac{9}{12}$.

1											
$\frac{1}{4}$			$\frac{1}{4}$			$\frac{1}{4}$			$\frac{1}{4}$		
$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$

How many $\frac{1}{4}$ strips did you color? _____

**Equivalent Fractions** (continued)

10. So, $\frac{9}{12}$ is equivalent to three $\frac{1}{4}$ strips. $\frac{9}{12} = \frac{\square}{4}$

You can use division to find a fraction equivalent to $\frac{9}{12}$. To do this, divide the numerator and the denominator by the same number.

11. What number is the denominator of $\frac{9}{12}$ divided by to get 4? _____

$$\frac{9}{12} = \frac{\square}{4}$$

$\div 3$
 $\div 3$

12. Since the denominator was divided by 3, the numerator must also be divided by 3. Put the quotient of $9 \div 3$ in the numerator of the second fraction above.

Divide the numerator and denominator of each fraction by the same number to find a fraction equivalent to each.

13. $\frac{8}{10} = \frac{\square}{5}$

$\div 2$
 $\div 2$

14. $\frac{10}{15} = \frac{\square}{3}$

$\div 5$
 $\div 5$

If the numerator and denominator cannot be divided by anything else, then the fraction is in simplest form.

15. Is $\frac{5}{12}$ in simplest form? _____

16. Is $\frac{6}{8}$ in simplest form? _____

Find each equivalent fraction.

17. $\frac{1}{5} = \frac{\square}{15}$

18. $\frac{8}{10} = \frac{\square}{5}$

19. $\frac{2}{8} = \frac{\square}{4}$

20. $\frac{7}{10} = \frac{\square}{20}$

21. $\frac{6}{14} = \frac{\square}{7}$

22. $\frac{8}{11} = \frac{\square}{22}$

Write each fraction in simplest form.

23. $\frac{6}{8}$ _____

24. $\frac{8}{12}$ _____

25. $\frac{7}{35}$ _____

26. $\frac{16}{24}$ _____

27. **Reasoning** Explain why $\frac{4}{6}$ is not in simplest form.



Simplest Form

Anita saw that $\frac{12}{30}$ of the students in her class wore t-shirts one day.

Write $\frac{12}{30}$ in simplest form by answering 1 to 5.

To write a fraction in simplest form, you need to use the greatest common factor (GCF) for the numerator and the denominator.

1. What is the GCF of 12 and 30? _____
2. Divide both the numerator and the denominator by the GCF to find an equivalent fraction. $\frac{12 \div 6}{30 \div 6} = \frac{\square}{5}$
3. What is the fraction that you found that is equivalent to $\frac{12}{30}$? _____

A fraction is in simplest form when the GCF of the numerator and the denominator is 1.

4. Is the GCF of the numerator and the denominator of the fraction you found 1? _____
5. What is $\frac{12}{30}$ in simplest form? _____

Nine out of 24 girls on the cross county team went to the state finals.

6. What fraction of the girls went to the state final? _____

Write $\frac{9}{24}$ in simplest form by answering 7 to 11.

7. What is the GCF of 9 and 24? _____
8. Divide both the numerator and the denominator by the GCF to find an equivalent fraction. $\frac{9 \div 3}{24 \div 3} = \frac{\square}{\square}$
9. What is the GCF of the numerator and the denominator of the fraction you found? _____
10. Is this fraction written in simplest form? _____
11. What fraction in simplest form represents the part of girls on the cross country team that went to the state finals? _____

Name _____



Simplest Form (continued)

Write each fraction in simplest form. If it is in simplest form, write simplest form.

12. $\frac{5}{10}$

13. $\frac{14}{16}$

14. $\frac{27}{45}$

15. $\frac{10}{15}$

16. $\frac{5}{20}$

17. $\frac{14}{18}$

18. $\frac{5}{11}$

19. $\frac{1}{15}$

20. $\frac{6}{20}$

21. $\frac{36}{45}$

22. $\frac{11}{33}$

23. $\frac{24}{60}$

24. $\frac{18}{24}$

25. $\frac{12}{160}$

26. $\frac{6}{12}$

27. $\frac{9}{81}$

28. $\frac{16}{48}$

29. $\frac{7}{13}$

30. $\frac{21}{25}$

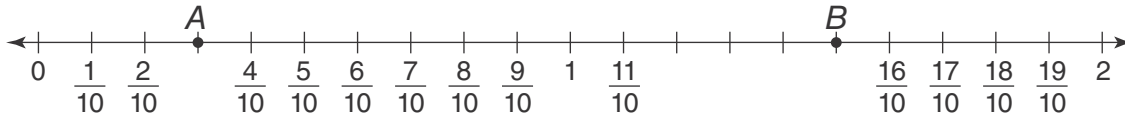
31. $\frac{14}{35}$

32. **Reasoning** Explain how to tell $\frac{100}{105}$ is not in simplest form without finding all the factors.



Fractions and Mixed Numbers on the Number Line

Each fraction names a point on the number line below. Use the number line to answer 1 to 7.



- How many equal lengths is the distance between 0 and 1 divided into? _____
- How many equal lengths is the distance between 1 and 2 divided into? _____

Since the distance between 0 and 1 and the distance between 1 and 2 are each divided into 10 equal lengths, each length is $\frac{1}{10}$ of the whole length.

- To name point A , count by tenths. $\frac{1}{10}$, $\frac{2}{10}$, _____
- What fraction is represented by point A on the number line above? _____
- To name point B , continue counting.

$\frac{4}{10}$, $\frac{5}{10}$, $\frac{6}{10}$, $\frac{7}{10}$, $\frac{8}{10}$, $\frac{9}{10}$, $\frac{10}{10}$, _____, _____, _____, _____, _____

- What improper fraction is represented by point B ? _____
- Write point B as a mixed number. _____

Plot point C at $\frac{3}{5}$ on the number line above by answering 8 and 9.

- What fraction with a denominator of 10 is equivalent to $\frac{3}{5}$?

- Plot point C at $\frac{6}{10}$. This point represents $\frac{3}{5}$.

$$\frac{3}{5} = \frac{\square}{10}$$

Plot point D at $1\frac{4}{5}$ on the number line above by answering 10 and 11.

- What improper fraction with a denominator of 10 is equivalent to $1\frac{4}{5}$?

$$1\frac{4}{5} = 1\frac{\square}{10} = \frac{\square}{10}$$

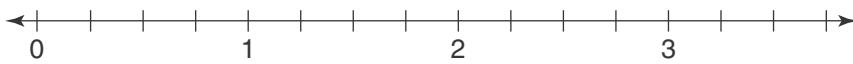


Fractions and Mixed Numbers on the Number Line (continued)

11. Plot point D at $\frac{18}{10}$. This point represents $1\frac{4}{5}$.

12. **Reasoning** On a number line, numbers increase in value from left to right. Use the number line on the previous page to help you order $\frac{3}{10}$, $1\frac{1}{2}$, $\frac{3}{5}$, and $1\frac{4}{5}$ from least to greatest.

Plot each point on the number line below.



13. Point A at $\frac{3}{4}$ 14. Point B at $1\frac{1}{4}$ 15. Point C at $2\frac{1}{2}$ 16. Point D at $3\frac{1}{2}$

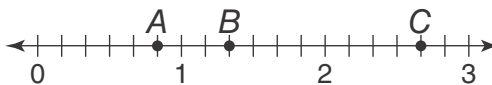
Use the number lines below. What fraction or mixed number represents each point?



17. Point A _____ 18. Point B _____ 19. Point C _____

20. Point D _____ 21. Point E _____ 22. Point F _____

Use the number lines below. What number represents each point?
If a point can be represented by both an improper fraction and a mixed number, give both.



23. Point A _____ 24. Point B _____ 25. Point C _____

26. Point D _____ 27. Point E _____ 28. Point F _____



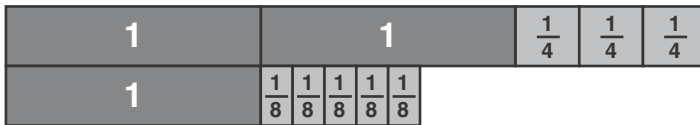
Subtracting Mixed Numbers

Materials fraction strips

On Monday, Carmen swam $2\frac{3}{4}$ miles and Katie swam $1\frac{5}{8}$ miles. Answer 1 to 8 to find how much farther Carmen swam than Katie.

Find $2\frac{3}{4} - 1\frac{5}{8}$.

- Estimate. $2\frac{3}{4} - 1\frac{5}{8}$ is about _____ - _____ = _____.
- Show $2\frac{3}{4}$ and $1\frac{5}{8}$ with fraction strips.



- How many eighths equal $\frac{3}{4}$? Write the number in the box at the right.
- Subtract the ones and subtract the fractions. Fill in the boxes at the right.
- What is $2\frac{3}{4} - 1\frac{5}{8}$? _____
- How much farther did Carmen swim than Katie? _____
- Is $1\frac{1}{8}$ close to the estimate of 1? _____
- Is $1\frac{1}{8}$ a reasonable answer? _____

$$\begin{array}{r}
 2\frac{3}{4} = 2\frac{\square}{8} \\
 - 1\frac{5}{8} = 1\frac{5}{8} \\
 \hline
 \square\frac{\square}{8}
 \end{array}$$

On Wednesday, Carmen swam $2\frac{1}{8}$ miles and Katie swam $1\frac{3}{4}$ miles. Answer 9 to 18 to find how much farther Carmen swam than Katie.

Find $2\frac{1}{8} - 1\frac{3}{4}$.

- Show $2\frac{1}{8}$ and $1\frac{3}{4}$ with fraction strips.



- What is the least common denominator of $\frac{1}{8}$ and $\frac{3}{4}$? _____



Subtracting Mixed Numbers (continued)

11. How many eighths equal $\frac{3}{4}$? Write the number in the box at the right.

$$2\frac{1}{8} = 2\frac{1}{8}$$

$$- 1\frac{3}{4} = 1\frac{\square}{8}$$

12. Compare. Write $>$, $<$, or $=$. $\frac{1}{8} \bigcirc \frac{6}{8}$

Since $\frac{1}{8}$ is less than $\frac{6}{8}$, you need to regroup.

13. What is $1\frac{1}{8}$ as an improper fraction? _____

14. What is the missing number?

$$2\frac{1}{8} = 1 + 1\frac{1}{8} = 1 + \frac{\square}{8}$$

Write this number at the right.

1	1								$\frac{1}{8}$
1	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$

15. Subtract the ones. What is $1 - 1$? _____

$$2\frac{1}{8} = 2\frac{1}{8} = 1\frac{\square}{8}$$

16. Subtract the fractions. What is $\frac{9}{8} - \frac{6}{8}$? _____
Write 3 at the right.

$$- 1\frac{3}{4} = 1\frac{6}{8} = 1\frac{6}{8}$$

$$\frac{\square}{8}$$

17. What is $2\frac{1}{8} - 1\frac{3}{4}$? _____

1	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
1	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$			

18. How much farther did Carmen swim than Katie on Wednesday? _____

Subtract. Simplify, if possible. Estimate to check.

19.
$$\begin{array}{r} 2\frac{2}{3} \\ - 1\frac{1}{6} \\ \hline \end{array}$$

20.
$$\begin{array}{r} 2\frac{4}{10} \\ - 1\frac{3}{5} \\ \hline \end{array}$$

21.
$$\begin{array}{r} 5\frac{1}{4} \\ - \frac{2}{5} \\ \hline \end{array}$$

22.
$$\begin{array}{r} 6\frac{7}{8} \\ - 1\frac{5}{6} \\ \hline \end{array}$$

23. To make a dress, $1\frac{1}{6}$ yards of blue material is needed and $\frac{3}{4}$ yard of red material is needed. How much more blue material is needed than red material? _____

24. **Reasoning** If you have $7\frac{3}{16}$ and you subtract $\frac{3}{16}$, how much do you have? _____



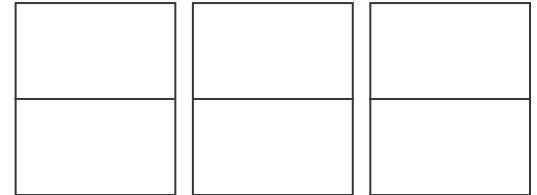
Understanding Division with Fractions

Materials crayons, markers, or colored pencils

Donna has 3 kilograms of clay. She uses $\frac{1}{2}$ kilogram for each vase.
Answer 1 to 3 to find the number of vases she can make.

Find $3 \div \frac{1}{2}$.

1. Color each half of a rectangle at the right a different color. How many $\frac{1}{2}$'s are in 3? _____



2. What is $3 \div \frac{1}{2}$? _____

3. How many vases can Donna make? _____

You could also find $3 \div \frac{1}{2}$ by multiplying $3 \times \frac{2}{1}$.

The numbers $\frac{1}{2}$ and $\frac{2}{1}$ or 2 have a special relationship because $\frac{1}{2} \times 2 = 1$. The numbers $\frac{1}{2}$ and 2 are reciprocals. Similarly, $\frac{3}{4}$ and $\frac{4}{3}$ are reciprocals. Note that $\frac{3}{4} \times \frac{4}{3} = 1$.

4. What is the reciprocal of $\frac{1}{3}$? _____

5. What is the reciprocal of $\frac{5}{7}$? _____

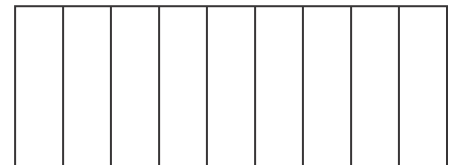
So, $3 \div \frac{1}{2}$ can be written as 3×2 , because 2 is the reciprocal of $\frac{1}{2}$.

Thomas has $\frac{9}{10}$ kilogram of clay. He uses $\frac{3}{10}$ kilogram for each small bowl.

Answer 6 to 8 to find how many small bowls Thomas can make.

Find $\frac{9}{10} \div \frac{3}{10}$ using a model.

6. Color each $\frac{3}{10}$ of the rectangle at the right a different color. How many $\frac{3}{10}$'s are in $\frac{9}{10}$? _____



7. What is $\frac{9}{10} \div \frac{3}{10}$? _____

8. How many small bowls can Thomas make? _____

Find $\frac{9}{10} \div \frac{3}{10}$ by using the reciprocal.

9. What is the reciprocal of $\frac{3}{10}$? _____

**Understanding Division with Fractions** (continued)

10. To find $\frac{9}{10} \div \frac{3}{10}$, can you multiply $\frac{9}{10}$ by the reciprocal of $\frac{3}{10}$? _____

11. Complete: $\frac{9}{10} \times \frac{10}{3} = \frac{9 \times 10}{10 \times \square} = \frac{90}{\square} = \square$

12. Is the answer to item 11 the same as item 8? _____

Find the reciprocal of each number.

13. $\frac{3}{4}$ _____

14. $\frac{1}{15}$ _____

15. $\frac{7}{9}$ _____

16. $1\frac{3}{7}$ _____

Find each quotient.

17. How many $\frac{1}{4}$ are in 2? _____

18. How many $\frac{1}{2}$ are in 3? _____

19. How many $\frac{1}{4}$ are in 4? _____

20. How many $\frac{3}{4}$ are in 3? _____

21. How many $\frac{1}{8}$ are in 2? _____

22. How many $\frac{2}{8}$ are in 1? _____

23. How many $\frac{3}{8}$ are in 3? _____

24. How many $\frac{6}{8}$ are in 3? _____

25. $3 \div \frac{1}{6}$ _____

26. $9 \div \frac{3}{5}$ _____

27. $4 \div \frac{1}{4}$ _____

28. $10 \div \frac{5}{6}$ _____

29. $9 \div \frac{3}{4}$ _____

30. $6 \div \frac{1}{3}$ _____

31. $2 \div \frac{1}{7}$ _____

32. $6 \div \frac{3}{5}$ _____

33. $10 \div \frac{1}{10}$ _____

34. Bonnie is cutting 7 apples. Each apple is cut into eighths.
How many slices of apple will she have? _____

35. **Reasoning** Explain how to find $\frac{3}{4} \div \frac{3}{8}$ by using the reciprocal of $\frac{3}{8}$.



Multiplying Decimals by 10, 100, or 1,000

1. What is the value of 1 nickel? $1 \times \$0.05 =$ _____
2. What is the value of 10 nickels? $10 \times \$0.05 =$ _____
3. What is the value of 100 nickels? $100 \times \$0.05 =$ _____
4. What is the value of 1 quarter? $1 \times \$0.25 =$ _____
5. What is the value of 10 quarters? $10 \times \$0.25 =$ _____
6. What is the value of 100 quarters? $100 \times \$0.25 =$ _____
7. **Reasoning** What do you notice about the decimal point as a decimal is multiplied by a multiple of 10?

8. Use the pattern to fill in the table and to find $1,000 \times 0.945$.

Multiply by	Expression	Product	Move the decimal point to the right:
1	1×0.945	0.945	0 places
10	10×0.945	9.45	
100	100×0.945		2 places
1,000	$1,000 \times 0.945$		

9. What is $1,000 \times 0.945$? _____

Find 2.8×100 by answering 10 and 11.

10. How many places to the right do you need to move the decimal point when multiplying a decimal by 100? _____

To multiply 2.8×100 , you need to move the decimal point two places to the right, but 2.8 only has one digit to the right of the decimal point. When this happens, use zeros as placeholders.

11. What is 2.8×100 ? _____

Name _____



Multiplying Decimals by 10, 100, or 1,000 (continued)

Use mental math to find each product.

12. $6.74 \times 1 =$ _____

$6.74 \times 10 =$ _____

$6.74 \times 100 =$ _____

$6.74 \times 100 =$ _____

13. $42.19 \times 1 =$ _____

$42.19 \times 10 =$ _____

$42.19 \times 100 =$ _____

$42.19 \times 1,000 =$ _____

14. $0.0125 \times 1 =$ _____

$0.0125 \times 10 =$ _____

$0.0125 \times 100 =$ _____

$0.0125 \times 1,000 =$ _____

15. $295.81 \times 1 =$ _____

$295.81 \times 10 =$ _____

$295.81 \times 100 =$ _____

$295.81 \times 1,000 =$ _____

16. $0.0007 \times 1 =$ _____

$0.0007 \times 10 =$ _____

$0.0007 \times 100 =$ _____

$0.0007 \times 1,000 =$ _____

17. $1,400 \times 1 =$ _____

$1,400 \times 10 =$ _____

$1,400 \times 100 =$ _____

$1,400 \times 1,000 =$ _____

18. One box weighs 3.25 pounds. What is the weight of 10 boxes? _____

19. **Reasoning** How is multiplying a decimal by 100 the same as multiplying a whole number by 100? How is it different?



Dividing Decimals by 10, 100, or 1,000

- If \$250 is divided evenly by 10 people, how much does each person get? _____
- If \$250 is divided evenly by 100 people, how much does each person get? _____
- If \$250 is divided evenly by 1,000 people, how much does each person get? _____
- What do you notice about the decimal point as a decimal is divided by multiples of 10? _____
- Use the pattern to fill in the table and to find $873.2 \div 1,000$.

Divide by	Expression	Answer	Move the decimal point to the left
1	$873.2 \div 1$	873.2	0 places
10	$873.2 \div 10$	87.32	
100	$873.2 \div 100$		2 places
1,000	$873.2 \div 1,000$		

- What is $873.2 \div 1,000$? _____

Find $3.6 \div 100$ by answering 7 to 9.

- How many places to the left does the decimal point move when dividing by 100? _____

To divide $3.6 \div 100$, you need to move the decimal point two places to the left, but 3.6 only has one digit to the left of the decimal point. When this happens, use zeros as placeholders.

- What is $3.6 \div 100$? _____
- Reasoning** How can you check your answer?

Name _____



Dividing Decimals by 10, 100, or 1,000 (continued)

Use mental math to find each quotient.

- 10.** $18.4 \div 1 =$ _____
 $18.4 \div 10 =$ _____
 $18.4 \div 100 =$ _____
 $18.4 \div 1,000 =$ _____
- 11.** $73 \div 1 =$ _____
 $73 \div 10 =$ _____
 $73 \div 100 =$ _____
 $73 \div 1,000 =$ _____
- 12.** $106.2 \div 1 =$ _____
 $106.2 \div 10 =$ _____
 $106.2 \div 100 =$ _____
 $106.2 \div 1,000 =$ _____
- 13.** $9 \div 1 =$ _____
 $9 \div 10 =$ _____
 $9 \div 100 =$ _____
 $9 \div 1,000 =$ _____
- 14.** $45.3 \div 1 =$ _____
 $45.3 \div 10 =$ _____
 $45.3 \div 100 =$ _____
 $45.3 \div 1,000 =$ _____
- 15.** $575 \div 1 =$ _____
 $575 \div 10 =$ _____
 $575 \div 100 =$ _____
 $575 \div 1,000 =$ _____
- 16.** $6.2 \div 10$ _____
- 17.** $83.9 \div 100$ _____
- 18.** $27.5 \div 1,000$ _____
- 19.** $375 \div 1,000$ _____
- 20.** $93.3 \div 100$ _____
- 21.** $12.4 \div 10$ _____
- 22.** $214 \div 1,000$ _____
- 23.** $5.04 \div 100$ _____
- 24.** $37 \div 10$ _____
- 25.** $564 \div 10$ _____
- 26.** $72.9 \div 1,000$ _____
- 27.** $4.1 \div 100$ _____
- 28.** $97.6 \div 100$ _____
- 29.** $813 \div 1,000$ _____
- 30.** $3.7 \div 10$ _____
- 31.** $8 \div 100$ _____
- 32.** $17.65 \div 10$ _____
- 33.** $3,175 \div 1,000$ _____
- 34.** $0.54 \div 10$ _____
- 35.** $2.06 \div 100$ _____
- 36.** A 220-foot long coil of rope is to be divided into 10 equal pieces. How long will each piece be? _____
- 37.** A 40-acre plot of land is to be subdivided into 100 equal size plots. How large will each plot be? _____

Measurement, Data, & Geometry





Using Customary Units of Length

A small paperclip is about 1 *inch* long.



A football is about 1 *foot* long.



A baseball bat is about 1 *yard* long.



Most people can walk a *mile* in about 15 minutes.

What is the best unit to measure each?

1. The length of your pencil _____
2. The length of the Mississippi River _____
3. The height of a desk _____
4. The length of your school _____

Answer 5 to 7 and use the table to find how many inches are in 4 feet.

5. 1 foot = _____ inches
6. To find how many inches are in 4 feet, multiply 4×12 inches.
 4×12 inches = _____ inches
7. How many inches are in 4 feet? _____

Customary Units of Length	
1 foot (ft)	= 12 inches
1 yard (yd)	= 3 feet
1 yard	= 36 inches
1 mile (mi)	= 5,280 feet
1 mile	= 1,760 yards

Answer 8 to 10 and use the table to find how many feet are in 5 yards, 2 feet.

8. 1 yard = _____ feet
9. How many feet are in 5 yards? 5×3 feet = _____ feet
10. How many feet are in 3 yards, 2 feet? 15 feet + 2 feet = _____ feet

Name _____



Using Customary Units of Length (continued)

Which unit would you use to measure each item?
Write *inch*, *foot*, *yard*, or *mile*.

11. The length of a gerbil

12. The length of a football field

13. The height of a door

14. The distance to the sun

Circle the better estimate.

15. The distance you travel on an airplane

560 yards or 560 miles

16. The height of a full grown adult giraffe

6 feet or 6 yards

17. The length of a bar of soap

3 inches or 7 inches

18. The length of your bed

7 feet or 7 yards

Find each missing number.

19. 2 yards = _____ feet

20. 3 feet = _____ inches

21. 4 yards = _____ inches

22. 3 yards, 2 feet = _____ feet

23. 1 foot, 9 inches = _____ inches

24. 2 yards, 2 feet = _____ inches

25. **Reasoning** What unit would you use to measure the length of an earthworm? Explain why your choice is the best unit.



Converting Customary Units of Length

Mayla bought 6 yards of ribbon. How many feet of ribbon did she buy?

Answer 1 to 4 to change 6 yards to feet.

To change larger units to smaller units, multiply. To change smaller units to larger units, divide.

- 1 yard = _____ feet
- Do you need to multiply or divide to change from yards to feet? _____
- What is 6×3 feet? _____ feet
- How many feet of ribbon did Mayla buy? _____

Deidra bought 60 inches of ribbon. How many feet of ribbon did she buy? Change 60 inches to feet by answering 5 to 8.

- 1 foot = _____ inches
- Do you need to multiply or divide to change from feet to inches? _____
- What is $60 \div 12$? _____
- How many feet of ribbon did Deidra buy? _____

Troy ran 4 miles. How many yards did he run? Change 4 miles to yards by answering 9 to 11.

- 1 mile = _____ yards
- Do you need to multiply or divide to change from miles to yards? _____
- 4 miles = _____ yards
- How many yards did Troy run? _____

Customary Units of Length

$$1 \text{ foot (ft)} = 12 \text{ inches (in.)}$$

$$1 \text{ yard (yd)} = 36 \text{ (in.)}$$

$$1 \text{ yard (yd)} = 3 \text{ feet (ft)}$$

$$1 \text{ mile (mi)} = 5,280 \text{ feet (ft)}$$

$$1 \text{ mile (mi)} = 1,760 \text{ yards (yd)}$$



Converting Customary Units of Length (continued)

Find each missing number.

- 13.** 1 yd = _____ ft **14.** 72 in. = _____ ft **15.** 3 mi = _____ ft
16. 5,280 ft = _____ mi **17.** 5 mi = _____ yd **18.** 4 yd = _____ ft
19. 48 in. = _____ ft **20.** 1 yd = _____ in. **21.** 6 mi = _____ ft
22. 5 yd = _____ ft **23.** 3 mi = _____ yd **24.** 2 ft = _____ in.
25. 21 ft = _____ yd **26.** 3 yd = _____ in. **27.** 4 yd = _____ in.

For Exercises 28 to 32 use the information in the table.

- 28.** How many inches did Speedy crawl?

_____ inches

- 29.** How many inches did Pokey crawl?

_____ inches

- 30.** How many inches did Pickles crawl?

_____ inches

- 31. Reasoning** Which turtle crawled the greatest distance? _____

- 32. Reasoning** Which turtle crawled the least distance? _____

- 33. Reasoning** Explain how you could use addition to find how many yards are in 72 inches.

Turtle Crawl Results

Turtle	Distance
Snapper	38 inches
Speedy	3 feet
Pokey	2 yards
Pickles	4 feet



Converting Customary Units of Capacity

The bread recipe calls for 2 cups of milk. How many fluid ounces (fl oz) is that? Change 2 cups to fluid ounces by answering 1 to 3.

To change larger units to smaller units, multiply.
To change smaller units to larger units, divide.

Customary Units of Capacity
1 tablespoon (tbsp) = 3 teaspoons (tsp)
1 cup (c) = 8 fluid ounces (fl oz)
1 pint (pt) = 2 cups (c)
1 quart (qt) = 2 pints (pt)
1 gallon (gal) = 4 quarts (qt)

- 1 cup = _____ fluid ounces
- Do you need to multiply or divide to change from cups to fluid ounces? _____
- What is 2×8 fluid ounces? _____ fluid ounces
- How many fluid ounces of milk is 2 cups? _____

Change 18 teaspoons to tablespoons by answering 5 to 8.

- 1 tablespoon = _____ teaspoons
- Do you need to multiply or divide to change from teaspoons to tablespoons? _____
- What is $18 \div 3$? _____
- 18 tablespoon = _____ teaspoons

Javier made 5 quarts of punch. How many pints did he make? Change 5 quarts to pints by answering 9 to 12.

- 1 quart = _____ pints
- Do you need to multiply or divide to change from quarts to pints? _____
- 5 quarts = _____ pints
- How many pints of punch did Javier make? _____



Converting Customary Units of Capacity (continued)

Find each missing number.

13. 40 fl oz = _____ c 14. 3 gal = _____ qt 15. 15 tsp = _____ tbsp
16. 4 qt = _____ pt 17. 12 pt = _____ qt 18. 8 c = _____ fl oz
19. 3 tbsp = _____ tsp 20. 18 c = _____ pt 21. 14 gal = _____ qt
22. 24 fl oz = _____ c 23. 16 qt = _____ pt 24. 32 qt = _____ gal
25. 3 pt = _____ c 26. 8 qt = _____ gal 27. 4 c = _____ pt

Lee has the supplies listed in the table to use in his science fair project. Use the table for Exercises 28 to 32.

Science Project Supplies

Liquid	Amount
Orange Juice	32 fl oz
Milk	1 pt
Vinegar	3 c
Water	3 pt

28. How many cups of orange juice does Lee have? _____ cups
29. How many cups of milk does Lee have? _____ cups
30. How many cups of water does Lee have? _____ cups
31. **Reasoning** Which liquid does Lee have the most of? _____
32. **Reasoning** Which liquid does Lee have the least of? _____
33. **Reasoning** Lee also needs 4 tablespoons of baking soda, but he can only find a teaspoon to measure with. How many teaspoons of baking soda does he need? _____
34. **Reasoning** Explain how to convert 6 pints to quarts.



Converting Metric Units

The table shows how metric units are related. Every unit is 10 times greater than the next smaller unit. Abbreviations are shown for the most commonly used units.

	$\div 10$	$\div 10$	$\div 10$	$\div 10$	$\div 10$	$\div 10$
kilometer (km)	hectometer	dekameter	meter (m)	decimeter	centimeter (cm)	millimeter (mm)
kiloliter	hectoliter	dekaliter	liter (L)	deciliter	centiliter	milliliter (mL)
kilogram (kg)	hectogram	dekagram	gram (g)	decigram	centigram	milligram (mg)
	$\times 10$	$\times 10$	$\times 10$	$\times 10$	$\times 10$	$\times 10$

To change from one metric unit to another, move the decimal point to the right or to the left to multiply or divide by 10, 100, or 1,000.

The length of a sheet of paper is 27.9 centimeters. Convert 27.9 cm to millimeters by answering 1 to 3.

- To move from centimeters to millimeters in the table, do you move right or left? _____
- How many jumps are there between centimeters and millimeters in the table? _____

Move the decimal one place to the right to convert from centimeters to millimeters. This is the same as multiplying by 10.

- What is the length of the paper in millimeters? _____mm

Convert 27.9 cm to meters by answering 4 to 6.

- To move from centimeters to meters in the table, do you move right or left? _____

**Converting Metric Units** (continued)

5. How many jumps are there between centimeters and meters in the table? _____

Move the decimal two places to the left to convert from centimeters to meters. This is the same as dividing by 100.

6. What is the length of the paper in meters? _____ m

Tell the direction and number of jumps in the table for each conversion. Then convert.

- | | | |
|---|---|--|
| 7. 742 cm to meters
_____ jumps _____
_____ m | 8. 12.4 kg to g
_____ jumps _____
_____ g | 9. 0.62 L to mL
_____ jumps _____
_____ mL |
|---|---|--|

Write the missing numbers.

10. 150 mg = _____ g 11. 2,600 m = _____ km 12. 0.4 L = _____ mL
 13. 300 mL = _____ L 14. 4 kg = _____ mg 15. 2.6 m = _____ mm
 16. 2,670 mg = _____ g 17. 34 cm = _____ mm 18. 16 L = _____ mL

For Exercises 19 to 21 use the table at the right.

19. What is the height of the Petronas Towers in centimeters?

20. What is the height of the CN Tower in meters?

21. What is the height of the John Hancock Center in km?

Building	Height
John Hancock Center	344 m
Petronas Towers	452 m
Sears Tower	44,200 cm
CN Tower	553,000 mm

22. **Reasoning** Which is shorter, 15 centimeters or 140 millimeters? Explain.

Word Problem Analysis



Name _____



Two-Step Problems

Max earns \$9 for every hour he rakes leaves. It took him 2 hours to rake the leaves in his yard. How much money did he earn raking leaves? If he already had \$26, how much does he have now?

Solve by answering 1 to 7.

Answer 1 and 2 to **understand** the problem.

1. What do you know from reading the problem?

Max earns _____ for every hour he rakes leaves.

He raked leaves for _____ hours.

He already had _____.

2. What do you need to find?

The problem has two questions. Answer the first one. Then, answer the second one.

Answer 3 to 6 to **plan and solve** the problem.

3. How can you answer the first question? _____

4. Solve. How much did Max earn raking leaves? _____

5. How can you answer the second question? _____

6. Solve. How much money did Max have after raking leaves? _____

Name _____



Two-Step Problems (continued)

Answer 7 to **check** your solution.

7. **Reasoning** Use an estimate to explain why your answer to how much money Max has now is reasonable.

Solve each problem. Answer both questions.

8. Ms. Olivia brought 7 bunches of bananas to the school picnic. Each bunch had 5 bananas. She also brought 27 apples.

How many bananas did she bring? _____ bananas

How many more bananas than apples did Ms. Olivia bring? _____ more

9. There are 3 children and 2 adults in Zac's family. Each person in the family donated \$5 to charity.

How many people are in Zac's family? _____ people

How much money did Zac's family donate to charity? _____

10. Monique read 45 pages on Saturday and 39 pages on Sunday. Her book has 113 pages.

How many pages did Monique read? _____ pages

How many more pages does she need to read to finish her book? _____ pages

11. Tandy bought 4 boxes of cat treats. Each box contains 2 packages. It takes 5 days to use each package of cat treats.

How many packages of cat treats did Tandy buy? _____ packages

How many days worth of cat treats did Tandy buy? _____ days

Name _____



Multi-Step Problems

At the sports store, Hannah bought 2 baseballs, and Jim bought 3 baseballs. The baseballs cost \$6 each. How much did they spend?

Solve by answering 1 to 8.

Answer 1 and 2 to **understand** the problem.

1. What do you know from reading the problem?

Hannah bought _____.

Jim bought _____.

The baseballs cost _____ each.

2. What do you need to find?

Answer 3 to 7 to **plan and solve** the problem.

3. How can you find how much Hannah and Jim spent?

4. Does the problem tell you how many baseballs Hannah and Jim bought altogether? _____

5. Do you have enough information to find out how many baseballs Hannah and Jim bought altogether? _____

“How many baseballs did Hannah and Jim buy altogether?” is the **hidden question** in the problem. You need to answer the hidden question before you can solve the problem.

6. How many baseballs did Hannah and Jim buy altogether? _____

Name _____



Multi-Step Problems (continued)

7. How much money did Hannah and Jim spend on the baseballs? _____

Answer 8 to **look back and check** your solution to the problem.

8. Did you answer the right question? _____

Write and answer the hidden question. Then solve the problem.

9. Henry had 571 baseball cards. He sold 395 of them. He then bought 275 new baseball cards. How many cards does he have now?

Use the graph to answer Exercises 10 and 11.

Favorite Snack	
Fruit	😊😊😊
Sandwiches	😊😊
Cheese	😊
Pretzels	😊😊😊😊

Each 😊 = 3 votes.

10. How many students voted for fruit or cheese?

11. How many more students voted for pretzels than voted for sandwiches?

12. It costs \$3 to rent a DVD. Sue rented 4 DVDs and Fran rented 3 DVDs. How much did they pay in all?

13. **Reasoning** Describe another way to find how much Sue and Fran paid in all for the DVDs in Exercise 12.

Name _____



Two-Step Problems

Susan has 2 collections of stickers. She has 36 stickers in one collection and 25 stickers in the other collection. If she gives a friend 6 stickers from the first collection, how many stickers in all does she have left?

Solve by answering 1 and 2 to **understand** the problem.

1. What do you know from reading the problem?

Susan has _____ collections of stickers.

One collection has _____ stickers.

The other collection has _____ stickers.

Susan gives _____ stickers to a friend.

2. What do you need to find?

Answer 3 and 4 to **plan and solve** the problem.

This problem has a hidden question. You must solve the hidden question before you can solve the problem.

3. What is the hidden question?

Write and solve a number sentence to answer the Hidden Question.

_____ + _____ = _____

Answer to the Hidden Question: _____ stickers

4. How many stickers are left after Susan gives 6 stickers to a friend?
Write and solve a second number sentence.

_____ - _____ = _____

_____ stickers

Name _____



Two-Step Problems (continued)

Answer 5 to **look back** at how you solved the problem.

- 5. Reasoning** Did you answer the right questions? Explain.

Solve each of the following problems. Remember to look for and write a hidden question that needs to be solved first.

- 6.** Sally ordered 6 packages of pens and 5 packages of pencils for the school supply store. Each package contains 10 pens or pencils. How many pens and pencils did she buy in all?

Hidden Question: _____

Answer to the Hidden Question: _____

- 7.** Mark has 4 pages of sports cards. Each page has 3 rows with 3 cards in each row. How many sports cards are on all 4 pages?

Hidden Question: _____

Answer to the Hidden Question: _____

- 8.** John has \$8 and Bill has \$16. They want to buy a video game that costs \$20. Do they have enough money to buy the game? If so, how much money will they have left over?

Hidden Question: _____

Answer to the Hidden Question: _____

Name _____



Multi-Step Problems

Carmen bought 2 DVDs on sale for \$21.99 each. She gave the clerk a \$3 discount coupon and a \$50 bill. The tax was \$2.64. How much change should she receive?

Solve by answering 1 to 11.

Answer 1 and 2 to **understand** the problem.

1. What do you know from reading the problem?

Carmen bought _____. Each DVD cost _____.

Carmen gave the clerk a discount coupon worth _____.

Carmen gave the clerk a _____ bill.

Tax was _____.

2. What do you need to find?

Answer 3 to 7 to **plan and solve** the problem.

3. How can you find how much change Carmen received?

4. Does the problem tell you the total cost? _____

5. Do you have enough information to find the total cost? _____

“What is the total cost?” is the **hidden question** in the problem. You need to answer the hidden question before you can solve the problem.

Name _____



Multi-Step Problems (continued)

6. How can you find the total cost?

7. Does the problem tell you the total cost of the two DVDs before tax and the discount? _____

“What is the total cost of the two DVDS before tax and the discount?” is another **hidden question** in the problem.

8. What is the total cost of the two DVDS before tax and the discount? _____

9. What is the total cost of the two DVDS with tax and the discount? _____

10. How much change did Carmen receive? _____

Answer 11 to **check** your solution.

11. **Reasoning** Use an estimate to explain why your answer is reasonable.

Use the table for Exercises 12 and 13.

12. The Kim family bought 3 adult tickets and 2 junior tickets. What was the total cost of the tickets?

Amusement Park Tickets	
Adults	\$35.50
Junior tickets (under 48 in.)	\$27.00
Starlight (after 5 P.M.)	\$32.00

13. The Bondi family purchased 4 Starlight tickets for the amusement park. How much money did they save by buying 4 Starlight tickets rather than 4 adult tickets? _____

Name _____

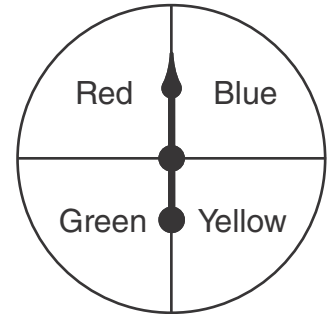
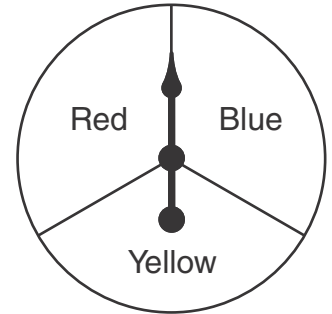


Make an Organized List

Carrie and Susi are playing a game. They spin the two spinners shown. If the spinners land on the same color, Carrie gets a point. Otherwise, Susi gets a point. How many combinations of two spins are possible? Is the game fair?

Solve by answering 1 to 8.

Answer 1 and 2 to **understand** the problem.



1. What do you know from reading the problem?

Carrie gets a point if _____

Susi gets a point if _____

2. What do you need to find?

Answer 3 to 7 to **plan and solve** the problem.

You can solve the problem by making an organized list.

3. Use R for red, B for blue, Y for yellow, and G for green. Complete the list at the right.

RR	BR	YR
RB	_____	_____

4. How many combinations of spins are possible?

_____	_____	_____
_____	_____	_____

Each combination is equally likely as any other.

5. For how many of the combinations does Carrie get a point? _____

6. For how many of the combinations does Susi get a point? _____

7. Is the game fair? _____

Name _____



Make an Organized List (continued)

Answer 8 to **look back** at how you solved the problem.

8. Reasoning Did you answer the right questions? Explain.

Solve each problem.

9. At a jewelry store, you can have your purchase gift-wrapped in silver, gold, or red paper with a white, pink, or blue ribbon. You can choose one color of paper and one color of ribbon. How many gift-wrap combinations are available?

10. Mr. Johnson is making sandwiches. He has wheat bread and rye bread. He has ham and salami. He also has colby and cheddar cheese. Each sandwich will have one kind of bread, one kind of meat, and one kind of cheese. How many different kinds of sandwiches can he make?

11. Leslie has a penny, a nickel, and a dime in her pocket. If she picks out 2 coins, what amounts of money could she get?

12. Each child at Heather's party has chosen a sandwich and a drink. If there are 7 children at the party, can they each have a different lunch?

Sandwiches	Drinks
Turkey	Milk
Ham	Juice
Tuna	
Peanut butter	

Name _____



Analyze Given Information

Use the table at the right to solve the problem.

Tim and Bob are looking for rocks for a science project. Tim finds a rock that weighs 2 pounds, and Bob finds a rock that weighs 30 ounces. Who found the heavier rock? Explain.

1 foot = 12 inches
1 yard = 3 feet
1 pound = 16 ounces

Solve by answering 1 to 6.

Answer 1 and 2 to **understand** the problem.

1. What do you know from reading the problem?

Tim's rock weighs _____ pounds.

Bob's rock weighs _____ ounces.

2. What do you need to find?

Answer 3 to 6 to **plan and solve** the problem.

3. You can compare both weights in ounces. Look at the information in the table to help. How many ounces are in 1 pound? _____ ounces
4. Tim's rock weighs 2 pounds. You know how many ounces are in 1 pound. So, how many ounces are in 2 pounds? _____ ounces
5. Show how much each rock weighs in ounces.
Tim's rock weighs _____ ounces.
Bob's rock weighs _____ ounces.
6. Compare the weights of the rocks in ounces. Who found the heavier rock? Explain.

Name _____



Analyze Given Information (continued)

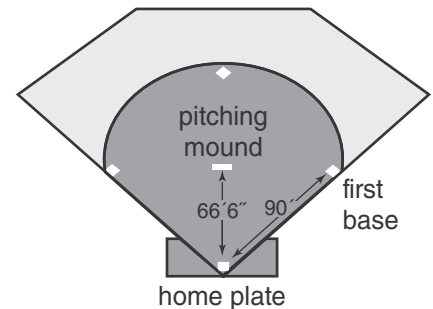
Answer 7 to **look back** at how you solved the problem.

7. Explain how using the table helped you to find the correct answer.

Use the figure at the right to answer 8 and 9.

8. During a baseball game, a catcher throws a baseball from home plate to first base as shown to the right. How many yards did the catcher throw the baseball?

9. During a baseball game, a pitcher throws a baseball from the pitching mound to home plate as shown to the right. How many inches did the pitcher throw the ball?



Answer 10 and 11 using the picture at the right.

A square has 4 equal sides as shown at the right.

10. What is the perimeter of the square in feet? _____
11. What is the perimeter of the square in yards? _____



Use the following information to answer 12.

The Smith family drives for 3 hours and 40 minutes on the first day of the family's trip and 4 hours and 20 minutes on the second day of the family's trip. There are 60 minutes in an hour.

12. How many hours did the family drive in all? _____