8th Grade FSA Countdown

Grade 8 FSA Mathematics Reference Sheet

Customary Conversions

1 foot = 12 inches
1 yard = 3 feet
1 mile = 5,280 feet
1 mile = 1,760 yards

1 cup = 8 fluid ounces
1 pint = 2 cups
1 quart = 2 pints
1 gallon = 4 quarts

1 pound = 16 ounces
1 ton = 2,000 pounds

Metric Conversions

1 meter = 100 centimeters
1 meter = 1000 millimeters
1 kilometer = 1000 meters

1 liter = 1000 milliliters

1 gram = 1000 milligrams
1 kilogram = 1000 grams

Time Conversions

1 minute = 60 seconds
1 hour = 60 minutes
1 day = 24 hours
1 year = 365 days
1 year = 52 weeks

Test Length

This table provides the approximate range for the number of items on each test.

Grade/Course	Number of Items
3	60–64
4	60–64
5	60–64
6	62–66
7	62–66
8	62–66
Algebra 1	64–68
Algebra 2	64–68
Geometry	64–68

Note: Approximately 6–10 items on all of the tests listed above are experimental (field test) items and are included in the ranges above but are <u>not</u> included in students' scores.

Sessions and Times

Grade/Course	Administration Time	Number of Sessions*	Computer-Based in 2015
3	160 minutes	2	No
4	160 minutes	2	No
5	160 minutes	2	Yes
6	180 minutes	3	Yes
7	180 minutes	3**	Yes
8	180 minutes	3**	Yes
Algebra 1	180 minutes	2**	Yes
Algebra 2	180 minutes	2**	Yes
Geometry	180 minutes	2**	Yes

*All sessions are administered over two days.
**Session 1 is the non-calculator portion of each assessment.

Percentage of Computer-Based Test Composed of Technology-Enhanced Items

Grade/Course	Percentage Range
Grades 5-8 Mathematics*	25%–50%
Algebra 1, Geometry, Algebra 2 EOCs	40%–60%
* Grades 3 and 4 Mathematics tests, once computer based, will also be composed of 25%–50% TEIs.	

Grade 8 Mathematics Standards Coverage

Reporting Category	Standard	% of Test
Expressions and Equations	MAFS.8.EE.1.1	30%
	MAFS.8.EE.1.2	
	MAFS.8.EE.1.3	
	MAFS.8.EE.1.4	
	MAFS.8.EE.2.5	
	MAFS.8.EE.2.6	
	MAFS.8.EE.3.7	
	MAFS.8.EE.3.8	
Functions	MAFS.8.F.1.1	25%
	MAFS.8.F.1.2	
	MAFS.8.F.1.3	
	MAFS.8.F.2.4	
	MAFS.8.F.2.5	
Geometry	MAFS.8.G.1.2 Also Assesses MAFS.8.G.1.1	27%
	MAFS.8.G.1.3	
	MAFS.8.G.1.4 Also Assesses MAFS.8.G.1.1	
	MAFS.8.G.1.5	
	MAFS.8.G.2.6	
	MAFS.8.G.2.7 Also Assesses MAFS.8.G.2.8	
	MAFS.8.G.3.9	
Statistics and Probability and The Number System	MAFS.8.SP.1.1	18%
	MAFS.8.SP.1.2	
	MAFS.8.SP.1.3	
	MAFS.8.SP.1.4	
	MAFS.8.NS.1.1	
	MAFS.8.NS.1.2	
Total Standard Groupings	26	100%

Florida Standards Assessments Test Item Descriptions

The Florida Standards Assessments (FSA) are composed of test items that include traditional multiple-choice items, items that require students to type or write a response, and technology-enhanced items (TEI). Technology-enhanced items are computer-delivered items that require students to interact with test content to select, construct, and/or support their answers. Currently, there are nine types of TEIs that may appear on computer-based assessments for FSA
Mathematics.

Technology-Enhanced Item Types – Mathematics

1. **Editing Task Choice** – The student clicks a highlighted word or phrase, which reveals a drop-down menu containing options for correcting an error as well as the highlighted word or phrase as it is shown in the sentence to indicate that no correction is needed. The student then selects the correct word or phrase from the drop-down menu. For paper-based assessments, the item is modified so that it can be scanned and scored electronically. The student fills in a circle to indicate the correct word or phrase.
2. **Editing Task** – The student clicks on a highlighted word or phrase that may be incorrect, which reveals a text box. The directions in the text box direct the student to replace the highlighted word or phrase with the correct word or phrase. For paper-based assessments, this item type may be replaced with another item type that assesses the same standard and can be scanned and scored electronically.
3. **Hot Text –**
    a. **Selectable Hot Text**–Excerpted sentences from the text are presented in this item type. When the student hovers over certain words, phrases, or sentences, the options highlight. This indicates that the text is selectable ("hot"). The student can then click on an option to select it. For paper-based assessments, a "selectable" hot text item is modified so that it can be scanned and scored electronically. In this version, the student fills in a circle to indicate a selection.
    b. **Drag-and-Drop Hot Text**–Certain numbers, words, phrases, or sentences may be designated "draggable" in this item type. When the student hovers over these areas, the text highlights. The student can then click on the option, hold down the mouse button, and drag it to a graphic or other format. For paper-based assessments, drag-and-drop hot text items will be replaced with another item type that assesses the same standard and can be scanned and scored electronically.
4. **Open Response**–The student uses the keyboard to enter a response into a text field. These items can usually be answered in a sentence or two. For paper-based assessments, this item type may be replaced with another item type that assesses the same standard and can be scanned and scored electronically.
5. **Multiselect** – The student is directed to select all of the correct answers from among a number of options. These items are different from multiple-choice items, which allow the student to select only one correct answer. These items appear in the online and paper-based assessments.
6. **Graphic Response Item Display (GRID)**- The student selects numbers, words, phrases, or images and uses the drag-and-drop feature to place them into a graphic. This item type may also require the student to use the point, line, or arrow tools to create a response on a graph. For paper-based assessments, this item type may be replaced with another item type that assesses the same standard and can be scanned and scored electronically.
7. **Equation Editor** – The student is presented with a toolbar that includes a variety of mathematical symbols that can be used to create a response. Responses may be in the form of a number, variable, expression, or equation, as appropriate to the test item. For paper-based assessments, this item type may be replaced with a modified version of the item that can be scanned and scored electronically or replaced with another item type that assesses the same standard and can be scanned or scored electronically.
8. **Matching Item** – The student checks a box to indicate if information from a column header matches information from a row. For paper-based assessments, this item type may be replaced with another item type that assesses the same standard and can be scanned and scored electronically.
9. **Table Item** – The student types numeric values into a given table. The student may complete the entire table or portions of the table depending on what is being asked. For paper-based assessment, this item type may

be replaced with another item type that assesses the same standard and can be scanned and scored electronically.

8th Grade Standards		Review Week									IP Semester	# times reviewed
Domain	Standard	1	2	3	4	5	6	7	8	9		
Equations & Expressions (30%)	8.EE.1.1					X			X		2	10
	8.EE.1.2					X			X		2	10
	8.EE.1.3	X							X		1	10
	8.EE.1.4	X								X	1	10
	8.EE.2.5	X								X	1	10
	8.EE.2.6	X								X	1	10
	8.EE.3.7				X					X	2	10
	8.EE.3.8				X					X	2	10
Geometry (27%)	8.G.1.1					X					2	5
	8.G.1.2					X					2	5
	8.G.1.3					X					2	5
	8.G.1.4						X				2	5
	8.G.1.5	X					X				1	10
	8.G.2.6						X				2	5
	8.G.2.7						X				2	5
	8.G.2.8						X				2	5
	8.G.3.9				X			X			2	10
Functions (25%)	8.F.1.1		X					X			1	10
	8.F.1.2		X					X			1	10
	8.F.1.3		X					X			1	10
	8.F.2.4		X					X			1	10
	8.F.2.5		X					X			1	10
Stats, Probability & Number System (18%)	8.SP.1.1			X							1	5
	8.SP.1.2			X							1	5
	8.SP.1.3			X							1	5
	8.SP.1.4			X							1	5
	8.NS.1.1				X						2	5
	8.NS.1.2				X						2	5

Day 1

1. **8.EE.1.3**
    A lab has two bacteria cultures. Culture A contains 8×10^4 bacteria, and Culture B contains 4×10^6 bacteria. How do the two cultures compare in size?
    A. Culture A contains twice as many bacteria as Culture B.
    B. Culture A contains $\frac{1}{2}$ as many bacteria as Culture B.
    C. Culture A contains $\frac{1}{25}$ as many bacteria as Culture B.
    D. Culture A contains $\frac{1}{50}$ as many bacteria as Culture B.

2. **8.EE.1.4**
    The average distance between planet Neptune and the Sun is about 4×10^9 kilometers. What is 4×10^9 written in standard notation?
    A. 0.0000000004
    B. 0.000000004
    C. 400,000,000
    D. 4,000,000,000

3. **8.EE.2.5**
    Amanda graphed line m and line n on a coordinate plane, as shown below. Which of the following statements is true?
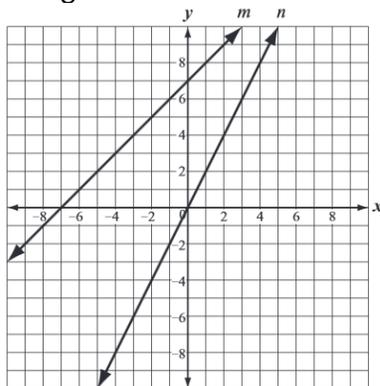
    A. The slope of line m is greater than the slope of line n.
    B. The slope of line n is greater than the slope of line m.
    C. The x-intercept of line m is greater than the x-intercept of line n.
    D. The x-intercept of line n is greater than the x-intercept of line m.

4. **8.EE.2.6**
    David wants to purchase some pens. The pens he likes cost $2 each, not including tax. This is represented by the graph in the coordinate plane below.
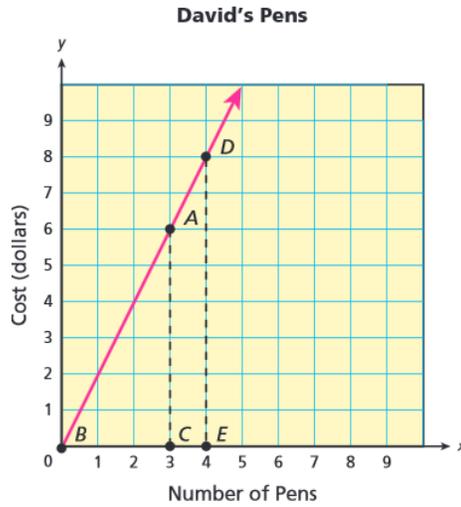

    Write an equation for the graph of the line.

5. **8.G.1.5**
    Triangle PQR, triangle RST, and two angle measures are shown below.
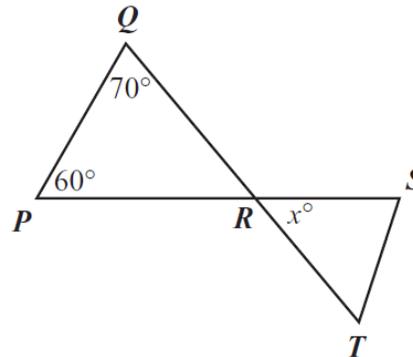
    Line segment QT intersects line segment PS at a point R.

    What is the value of x?

Name: _____   Date: _____
8th Grade Math: Week 1 FSA Countdown   Period: _____

Day 2

1. **8.EE.1.3**
   How much larger is 6×10^5 compared to 2×10^3? Explain how you know.

2. **8.EE.1.4**
   In 2005, the US Mint in Denver produced 4.04×10^8 Oregon State quarters. The US Mint in Philadelphia produced 7.12×10^7 Oregon State quarters. Considering the other two US Mint locations did not produce any quarters, how many Oregon State Quarters were minted in 2005?
   Express your answer in scientific notation.

3. **8.EE.2.5**
   The graph below represents y, the cost in dollars of x pounds of salad at a salad bar. What is the unit rate for the cost of a salad at the salad bar?

   Salad Cost

   (0.5, 2)

   Amount (in pounds)
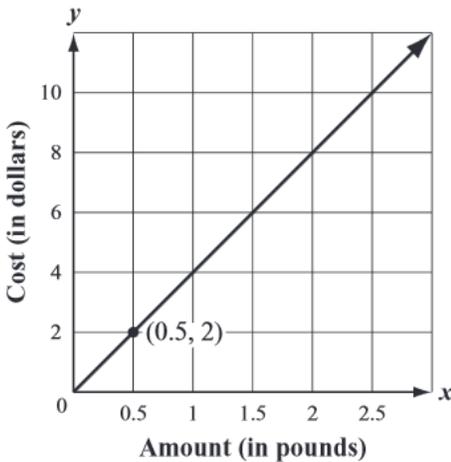
   A. $0.50 per pound
   B. $1.00 per pound
   C. $2.00 per pound
   D. $4.00 per pound.

4. **8.EE.2.6**
   David wants to purchase some pens. The pens he likes cost $2 each, not including tax. This is represented by the graph in the coordinate plane below.

   David's Pens
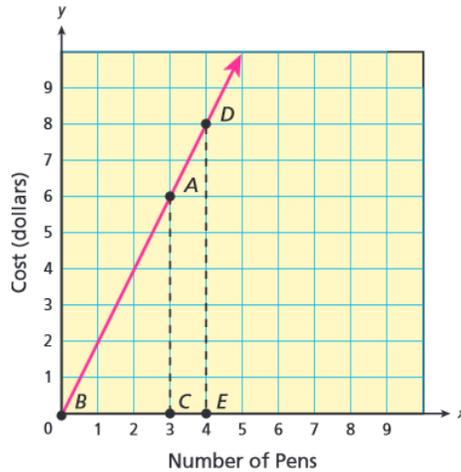
   Number of Pens

   Explain how similar triangles ΔABC and ΔDBE formed by the graph, dashed lines, and x-axis are similar in relation to the number of pens purchased and the cost.

5. **8.G.1.5**
   Right triangle *ABC* and right triangle *ACD* overlap as shown below. Angle *DAC* measures 20° and angle *BCA* measures 30°.
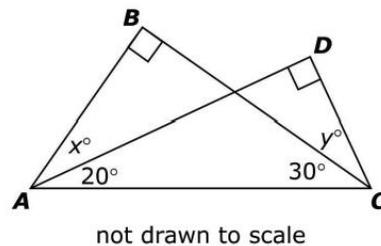
   not drawn to scale
   What are the values of *x* and *y*?

Day 3

1. **8.EE.1.3**
   The area of the surface of the Atlantic Ocean is approximately 31,830,000 square miles. How is this area written in scientific notation?
   A. 3.183×10^4
   B. 3.183×10^5
   C. 3.183×10^6
   D. 3.183×10^7

2. **8.EE.1.4**
   Evaluate $(2.4 \times 10^4)(4.5 \times 10^3)$
   A. 1.08×10^7
   B. 1.08×10^8
   C. 1.08×10^{12}
   D. 1.08×10^{13}

3. **8.EE.2.5**
   Rain is flowing into two containers at different rates. The figure below shows the volume of water in each container at different times.
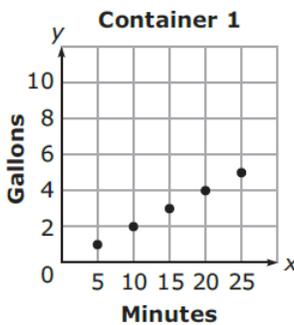
Container 1

Container 2

Minutes	Gallons
5	2
10	4
15	6
20	8
25	10

What is the difference in the rate of change between the two containers?
   A. $\frac{1}{5}$ gallon per minute
   B. $\frac{3}{5}$ gallon per minute
   C. $\frac{5}{2}$ gallon per minute
   D. $\frac{15}{2}$ gallon per minute

4. **8.EE.2.6**

Which equation represents the line shown on the coordinate grid below?
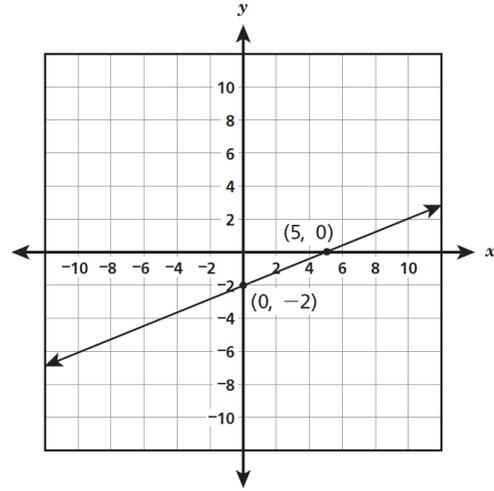
   A. $y = \frac{2}{5}x - 2$
   B. $y = \frac{2}{5}x + 5$
   C. $y = -\frac{2}{5}x - 2$
   D. $y = -\frac{2}{5}x + 5$

5. **8.G.1.5**
   In the diagram, Jefferson Highway is parallel to Independence Boulevard. The County Court House is located at the intersection of Main Street and Center Avenue.
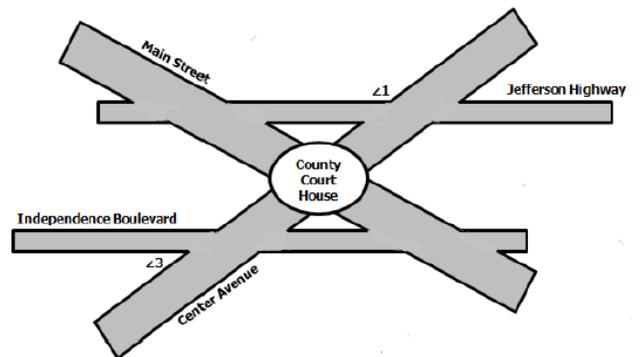
If $m\angle 1 = 157°$, what is $m\angle 3$?
   A. $180°$
   B. $157°$
   C. $46°$
   D. $23°$

Day 4

1. **8.EE.1.3**
   Which is the larger value: 2×10^6 or 9×10^5? Explain how you know.

2. **8.EE.1.4**
   Determine the product of $800.5 \times (2 \times 10^6)$
   A. 1.7×10^7
   B. 1.601×10^7
   C. 1.7×10^9
   D. 1.601×10^9

3. **8.EE.2.5**
   Three students saved money for four weeks.

   Money Saved

   - Antwan saved the same amount each week for 4 weeks. He made this graph to show how much money he saved.
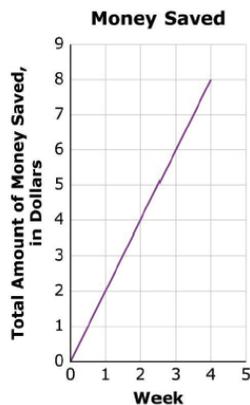
   - Carla saved the same amount of money each week for 4 weeks. She made this table to show how much money she saved.

Week	Total Amount of Money Saved
1	$1.75
2	$3.50
3	$5.25
4	$7.00

   - Omar saved the same amount of money each week for 4 weeks. He wrote the equation below to show how much he saved. In the equation, S is the total amount of money saved, in dollars, and w is the number of weeks.
     $$S = 2.5w$$

Which student saved the greatest amount of money each week?

[   ]

Which student saved the least amount of money each week?

[   ]

4. **8.EE.2.6**
   If a line contains the points in the table below, which is the equation of the line?

x	y
−8	−42
−3	−17
0	−2
6	28

   A. $y = -2x + 5$
   B. $y = 2x - 5$
   C. $y = 5x - 2$
   D. $y = -5x - 2$

5. **8.G.1.5**
   The measures of the angles of a triangle are 50°, 35°, and 95°. What is the measure of the largest exterior angle of the triangle?
   A. 85°
   B. 130°
   C. 145°
   D. 150°

Day 5

1. **8.EE.1.3**
   The average distance from Jupiter to the Sun is about 4×10^8 miles. The average distance from Venus to the Sun is about 8×10^7 miles.
   The average distance from Jupiter to the Sun is about how many times as great as the average distance from Venus to the Sun?

   ┌──────────────┐
   │   │ times
   └──────────────┘

2. **8.EE.1.4**
   At a given time, Saturn was 9.1×10^8 miles from the Sun and Earth was 9.3×10^7 miles from the Sun. By what distance is one planet closer to the Sun than the other planet?
   - **A.** 2×10^1
   - **B.** 2×10^5
   - **C.** 8.17×10^7
   - **D.** 8.17×10^8

3. **8.EE.2.5**
   Bamboo is one of the fastest-growing plants. A typical growth rate for bamboo in temperate climates is 3-10 centimeters per day during the growth season.
   Which of the following equations, where t represents time in days, and L represents length in centimeters, could be descriptions of the growth of a bamboo plant? Select all that apply.
   - ☐ **A.** $L = 1.1t$
   - ☐ **B.** $L = 2.5t$
   - ☐ **C.** $L = 3.6t$
   - ☐ **D.** $L = 7.1t$
   - ☐ **E.** $L = 9.3t$
   - ☐ **F.** $L = 10.4t$

4. **8.EE.2.6**

In the coordinate plan below, $\triangle ABC$ is similar to $\triangle AEF$.
What is the value of x?
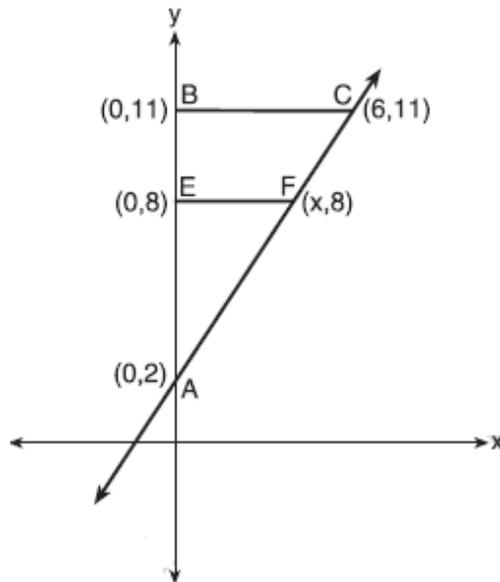
5. **8.G.1.5**
   Lines l and m are parallel to one another and cut by transversals s and t.
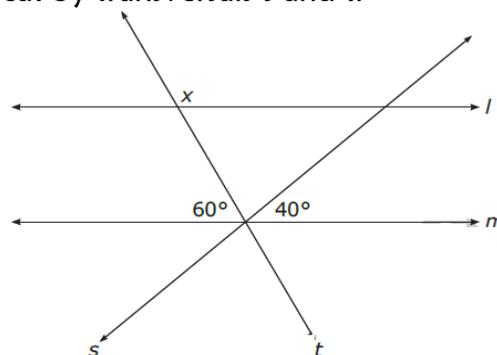
   What is the value of x?
   - **A.** 40°
   - **B.** 80°
   - **C.** 120°
   - **D.** 140°

Day 1

1. **8.F.1.1**
   Which of the following tables does **not** represent a function?

   A.
x	y
−3	5
−2	5
−1	5
0	5

   B.
x	y
−1	−1
0	0
1	1
2	2

   C.
x	y
3	0
4	1
5	2
5	3

   D.
x	y
2	8
4	6
6	4
8	2

2. **8.F.1.2**
   The total cost in dollars, y, of a membership at each of four health clubs is represented below in terms of x, the number of months of the membership.

   Health Club A: $y = 12x + 60$

   Health Club B:
x	y
0	$ 0
1	$21
2	$42
3	$63
4	$84

   Health Club C:
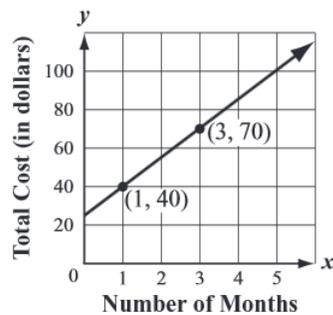
   Health Club D:
   A customer pays a one-time fee of $20 plus $20 each month for x months.

   Which representation has the greatest rate of change?
   - A. Health Club A
   - B. Health Club B
   - C. Health Club C
   - D. Health Club D

3. **8.F.1.3**
   Which of the following equations represents a linear function?
   - A. $y = 3x^2$
   - B. $y = 2 - \dfrac{6}{x}$
   - C. $y = \sqrt{x} + 6$
   - D. $y = \dfrac{1}{2}x + 3$

4. **8.F.2.4**
   The company charges $45 a day for the car as well as charging a one-time $25 fee for the car's navigation system (GPS). Write an equation for the cost in dollars, C, as a function of the number of days, d, the car was rented.

5. **8.F.2.5**
   Kiki is taking a bicycle ride. During the ride, Kiki is always traveling away from the starting point. Which of the following graphs of distance and time could model Kiki's ride?

Name: _____   Date: _____
8th Grade Math: Week 2 FSA Countdown   Period: _____

1. **8.F.1.1**
   Which graph below does **not** represent a
   function of x?

   A.   C.

   B.   D.
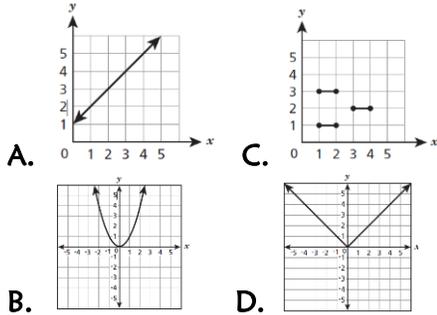
2. **8.F.1.2**
   A farmer has two water tanks that drain at a
   rate of 2.5 gallons per minute. He is considering
   replacing the existing tanks with new ones,
   either Model S or Model T. Information about
   the new tanks is shown below. Each tank holds
   100 gallons of water and drains at a constant
   rate. How do the drainage rates of Model S
   and Model T compare with the existing tanks?

   Model T Drainage Rate

   Model S Drainage Rate

Time (minutes)	Quantity (gallons)
0	100
6	82
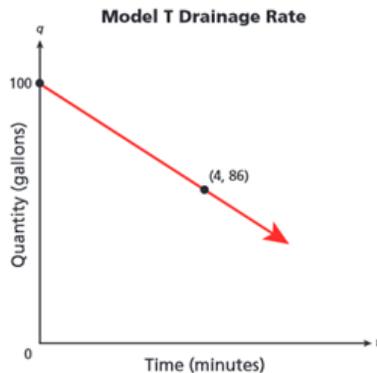
3. **8.F.1.3**
   Which of the following graphs shows a linear
   function?

   A.   C.

   B.   D.
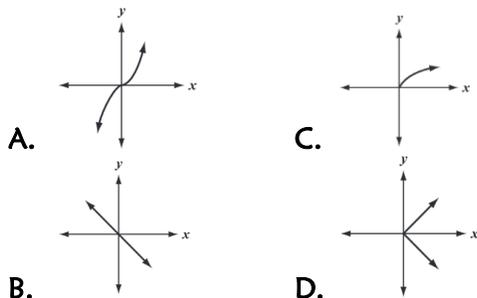
4. **8.F.2.4**
   The graph shows the temperature, in degrees
   Fahrenheit, of a liquid for the first ten minutes
   of a heating experiment.

   Heating Experiment
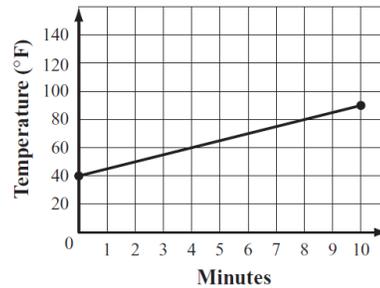
   Based on the graph, which expression could be
   used to calculate the temperature of the liquid
   after *m* minutes?

   A. $5m + 40$
   B. $-5m - 40$
   C. $10m + 40$
   D. $-10m - 40$

5. **8.F.2.5**
   A bicycle club went on a six-hour ride. The
   graph below shows the relationship between the
   number of hours spent on the trails and the
   number of miles traveled. Which statement best
   interprets information provided by the graph?

   BICYCLE CLUB RIDE
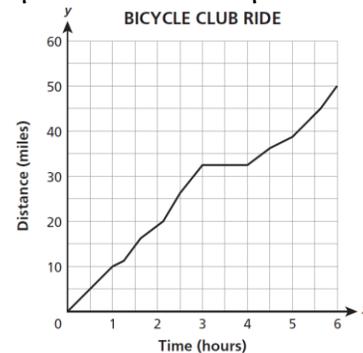
   A. The club members rode at a constant
      speed for the entire ride.
   B. The club members stopped for a rest
      during their ride.
   C. The number of miles traveled increased
      continuously throughout the ride.
   D. The number of miles traveled increased
      some of the time and decreased some of
      the time.

8th Grade Math: Week 2 FSA Countdown   Period: _____

1. **8.F.1.1**

The four tables below show relationships in which x values represent inputs and the y-values represent the corresponding outputs. Which table represents a relationship that is **not** a function?

Q

x	y
−2	−3
1	3
3	−3
5	3

R

x	y
−1	−5
2	4
3	7
4	10

S

x	y
−2	3
1	3
3	3
5	3

T

x	y
3	4
4	5
3	−4
4	−5

2. **8.F.1.2**

Madison created two functions. For function A, the value of y is two less than four times the value of x. The table to the right represents Function B. In comparing the rates of change, which statement about Function A and Function B is true?

Function B

x	y
−3	−9
−1	−5
1	−1
3	3

A. Function A and Function B have the same rate of change.
B. Function A has a greater rate of change than Function B has.
C. Function A and Function B both have negative rates of change.
D. Function A has a negative rate of change and Function B has a positive rate of change.

3. **8.F.1.3**

Which graph represents the equation $y = -2x + 1$?

A.

B.

C.

D.
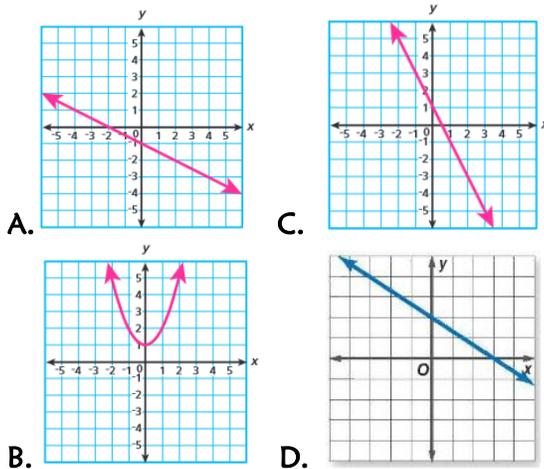
4. **8.F.2.4**

The graph below shows the relationship between the distances a delivery truck is driven and the amount of gas the truck uses. Based on the graph, what is the average distance, in miles, the truck can be driven using 1 gallon of gas?

Amount of Gas Used by Delivery Truck

(5, 60)
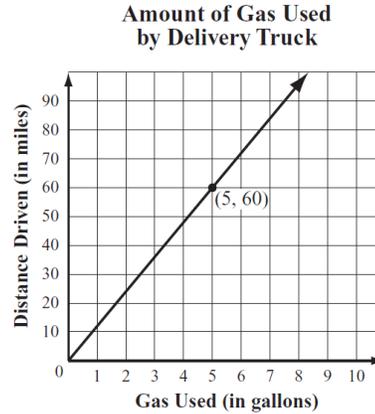
A. 10   C. 14
B. 12   D. 16

5. **8.F.2.5**

The school is 100 meters from Jason's house. The following describes his most recent trip:
- He walked 50 meters toward school in 2 minutes. He realized that he left a book at home.
- He turned around and walked home at the same speed.
- He spent 1 minute looking for his book.
- He walked to school at twice his original speed.

Finish a graph that accurately represents Jason's trip.

Day 4
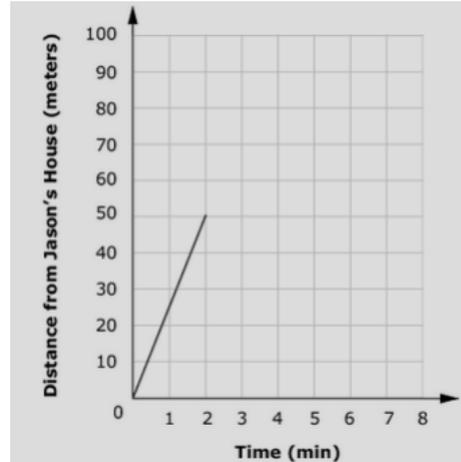
1. **8.F.1.1**
   The table below shows a relationship between x and y that is **not** a function. Write one ordered pair that can be removed from the table to make the relationship between x and y a function.

x	y
3	6
4	6
5	7
5	8
6	10
10	9
11	11

2. **8.F.1.2**
   The table below represents a linear function. Which function has a greater slope and a greater y-intercept than the linear function represented in the table?

x	y
−1	5
1	9
3	13
5	17

   A. $y = 2x + 8.5$
   B. $y = 3x + 7.5$
   C. $y = 5x + 6.5$
   D. $y = 10x + 5.5$

3. **8.F.1.3**
   Which equation does **not** represent a linear function of x?
   A. $y = -\frac{3}{4}x$
   B. $y = \frac{x}{2}$
   C. $y = -3 + 2x$
   D. $y = 3x^2 - 2$

4. **8.F.2.4**

Carmella graphed line p on the coordinate grid shown. Which of the following lines appears to have the same slope as line p?
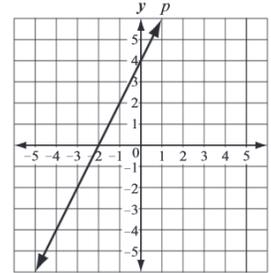
A.

B.

C.

D.

5. **8.F.2.5**
   The table shows the relationship between the average number of hours students study for a mathematics test and their average grade.

Hours Studying	Average Grade
0	62
1	78
2	85
5	74

   Which type of function is most likely to model these data?
   A. linear function with a positive slope
   B. linear function with a negative slope
   C. non-linear function that decreases then increases
   D. non-linear function that increases then decreases

Day 5

Name: _____ Date: _____

8th Grade Math: Week 2 FSA Countdown Period: _____

1. **8.F.1.1**

Which graph represents a function?

A.

C.

B.

D.
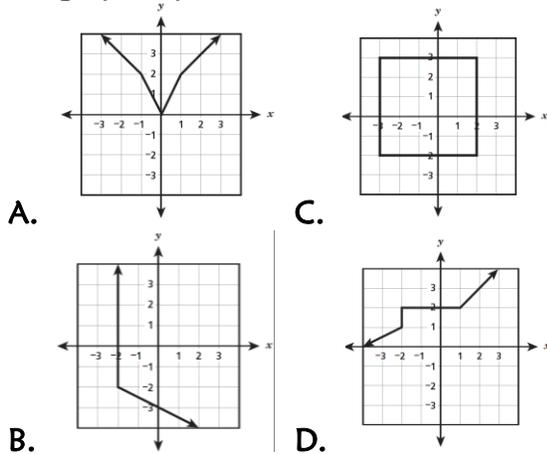
2. **8.F.1.2**

Consider the graph of a line.
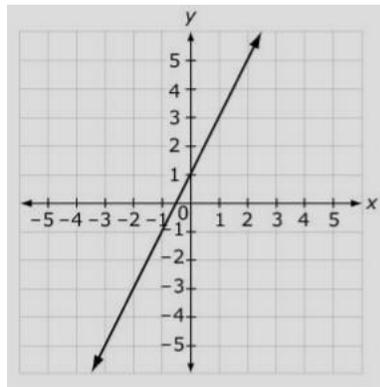
Which equation has a rate of change **greater than** the rate of change for the line shown?

A. $y = 3x - 1$

B. $y = \frac{x}{2} + 4$

C. $y = 2x + 2$

D. $y = \frac{x}{3} - 3$

3. **8.F.1.3**

Which phrase describes a nonlinear function?

A. the area of a circle as a function of the radius

B. the perimeter of a square as a function of the side length

C. the cost of gasoline as a function of the number of gallons purchased

D. the distance traveled by a car moving at constant speed as a function of time

4. **8.F.2.4**

The table below shows the cost of different numbers of goldfish at a pet store. The cost is a linear function of the number of goldfish. Which statement describes the rate of change of this function?

COST OF GOLDFISH

Number of Goldfish	Cost
5	$1.50
10	$3.00
15	$4.50
20	$6.00

A. The cost increases $0.30 each time 1 goldfish is added.

B. The cost increases $1.50 each time 1 goldfish is added.

C. The cost increases $3.00 each time 5 goldfish are added.

D. The cost increases $6.00 each time 5 goldfish are added.

5. **8.F.2.5**

Samantha takes her sister Bethany to the playground. While they are there, they do the following activities:

- Bethany rides on the seesaw.
- Samantha pushes Bethany on the swing.
- Bethany climbs up the ladder and slides down the slide.

The graphs of Bethany's activities are shown.

GRAPH 1

GRAPH 2

GRAPH 3

Which graph represents Bethany's ride on the seesaw?

Name: _____   Date: _____

8th Grade Math: Week 3 FSA Countdown   Period: _____
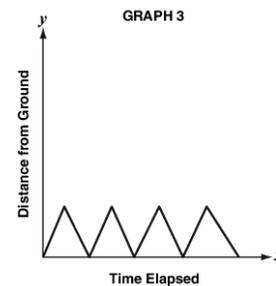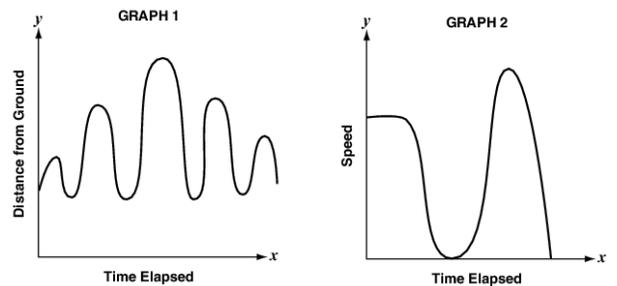
Day 1

1. 8.SP.1.1

Tony collected data on years of employment and the annual salaries of the salespeople at Company Z. He made a scatterplot and drew a trend line that approximated the line of best fit for the data, as shown to the right. Based on the trend line drawn for the data, what is the salary a salesperson with 3 years of employment at Company Z can expect to earn?

Salaries of Salespeople at Company Z

(9, $55,000)

$70,000
$60,000
$50,000
$40,000
$30,000

Salary

Years of Employment
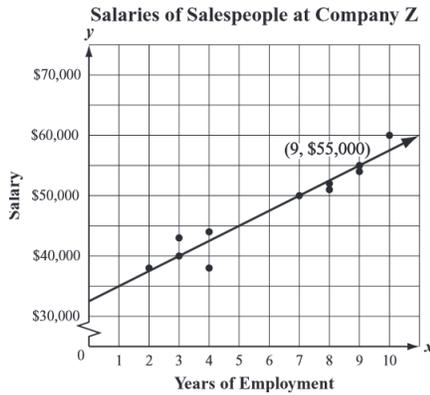
2. 8.SP.1.2

An airport terminal runs shuttle buses to different parts of the airport. The scatter plot shows the times for each part of the airport and a number of round trips. Which equation is closest to the line of best fit for this data?

Shuttle Bus Runs

Return Time (minutes)

Time to Destination (minutes)
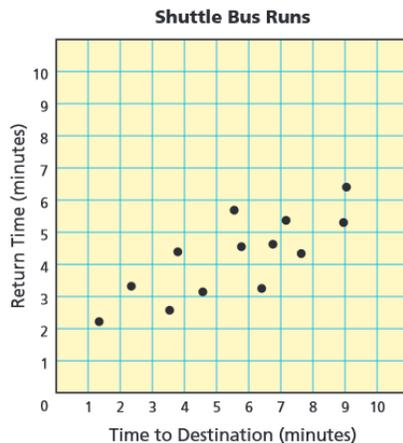
A. $y = \frac{3}{5}x + 1$

B. $y = \frac{3}{2}x + 1$

C. $y = \frac{3}{4}x + 2$

D. $y = \frac{5}{4}x + 2$

3. 8.SP.1.3

A researcher studied the eyesight of people at different ages. She calculated a vision score for each person in the study and plotted the data on the following graph. The researcher used the line $y = -0.1x + 110$ to model the data. When she substituted the value $x = 65$ into this equation, what did the result tell her?

EYESIGHT STUDY

Vision Score

110
108
106
104
102
100
98

20 25 30 35 40 45 50 55 60 65 70 75

Age (years)
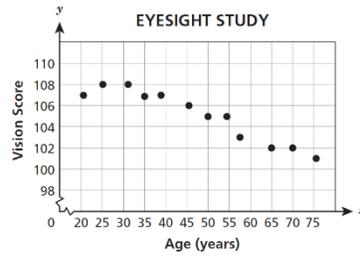
A. A 65-year old person's exact vision score

B. A 65-year old person's predicted vision score

C. A 65-year old person's minimum possible score

D. A 65-year old person's maximum possible score

4. 8.SP.1.4

A principal surveyed 75 seventh-grade and eighth-grade students. She asked them if they prefer to obtain the news from the Internet or to obtain the news from television. She created a table to display the data, as shown below.

News Preference		
	Internet	**Television**
Seventh Grade	16	34
Eighth Grade	10	15

(Students)

How many seventh-grade students responded to the survey? Show or explain how you got your answer.

5. 8.SP.1.1

Mateo is an editor for a publishing company that prints short stories and academic articles. Last month, Mateo kept track of the number of pages that were in each article or short story he edited and the number of typos he found in each. Below is a scatter plot showing the relationship between the number of pages and the number of typos.

Number of Typos Found

12
11
10
9
8
7
6
5
4
3
2
1

2 4 6 8 10 12 14 16 18 20 22

Number of Pages
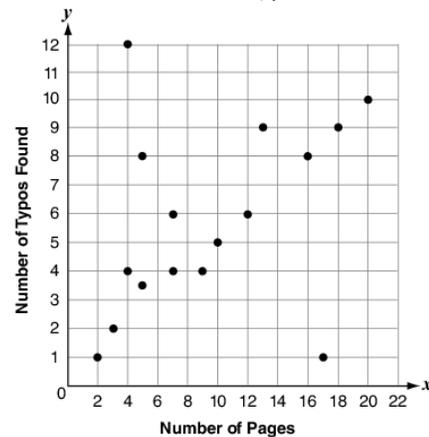
Do Mateo's data show a positive association or a negative association? Explain how you know.

Name: _____   Date: _____
8th Grade Math: Week 3 FSA Countdown   Period: _____

Day 2

1. **8.SP.1.1**
   Tony collected data on the years of employment and the annual salaries of the salespeople at Company Z. He made a scatterplot and drew a trend line that approximated the line of best fit for the data, as shown below. What is the slope of the trend line that Tony drew? Show or explain how you got your answer.

   Salaries of Salespeople at Company Z

   (9, $55,000)
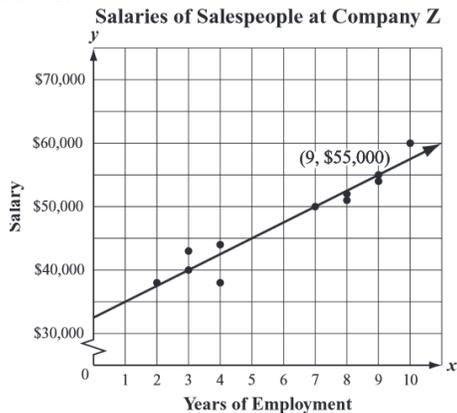
2. **8.SP.1.2**
   Which line represents the best fit for the scatter plot data?

   A.   C.

   B.   D.
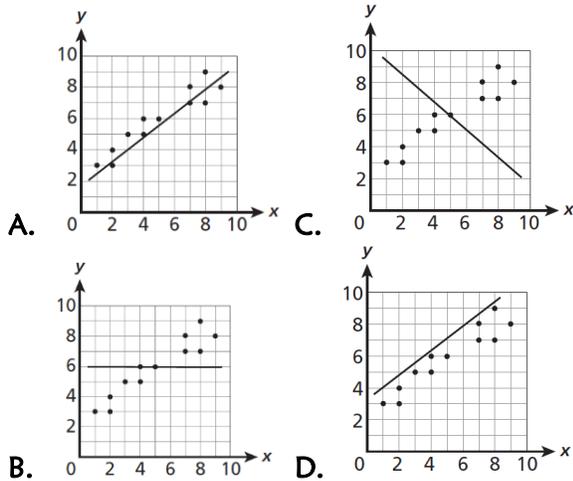
3. **8.SP.1.3**
   Annette plans to visit an amusement park where she must pay for admission and purchase tickets to go on the rides. Annette wants to find the total cost for a day at the amusement park. She wrote the equation $c = 1.50x + 12$ to predict c, the total cost for a day at the amusement park.

   What could the number 12 represent in Annette's equation?
   - A. the number of rides
   - B. the cost of admission
   - C. the cost of each ticket
   - D. the number of tickets

4. **8.SP.1.4**
   A principal surveyed 75 seventh-grade and eighth-grade students. She asked them if they prefer to obtain the news from the Internet or to obtain the news from television. She created a table to display the data, as shown below.

News Preference		
	Internet	Television
Seventh Grade	16	34
Eighth Grade	10	15

   (Students)

   What is the relative frequency of seventh-grade students who prefer to obtain the news from the Internet to all the seventh-grade students surveyed?

5. **8.SP.1.2**
   The scatter plot shows the sizes and annual rents of some office spaces in the downtown area of a city. What would the line of best fit reveal about these data?

   SIZE AND ANNUAL RENT OF OFFICE SPACE

   Office Space (square feet)
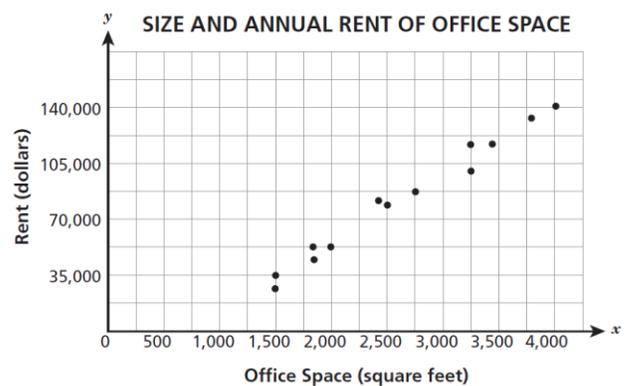
   - A. There is a strong negative relationship between the cost of rent and the size of the office space.
   - B. There is a strong positive relationship between the cost of rent and the size of the office space.
   - C. There is a weak positive relationship between the cost of rent and the size of the office space.
   - D. There is a weak negative relationship between the cost of rent and the size of the office space.

Day 3

1. **8.SP.1.1**

   Tony collected data on the years of employment and the annual salaries of the salespeople at Company Z. He made a scatterplot and drew a trend line that approximated the line of best fit for the data, as shown below. What does the slope mean in this situation?

   Salaries of Salespeople at Company Z

   (9, $55,000)
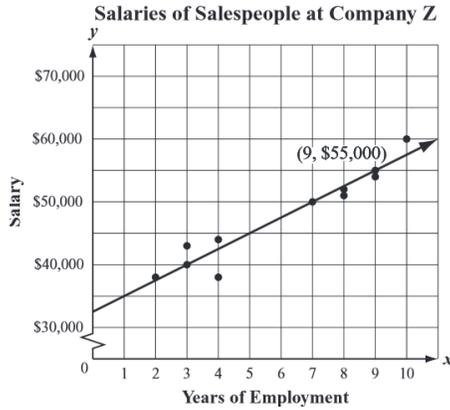
2. **8.SP.1.2**

   The scatter plot below shows the outside temperature and the sales at an ice cream shop each day for a period of twelve days.

   ICE CREAM SALES
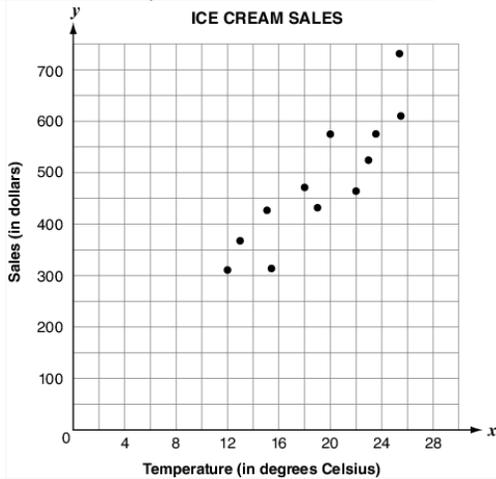
   Draw the line of best fit for the data on the graph above.

3. **8.SP.1.3**

   The scatter plot to the right shows the fat and calorie content of several snack foods.

   FAT AND CALORIE CONTENT OF SNACK FOODS
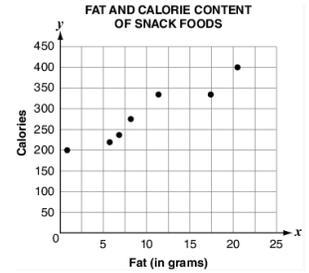
   The function $y = 10x + 190$ represents the relationship of the given data. What does the 10 in the function represent in the relationship between grams of fat and calories in the snack food studied?

4. **8.SP.1.4**

   A principal surveyed 75 seventh-grade and eighth-grade students. She asked them if they prefer to obtain the news from the Internet or to obtain the news from television. She created a table to display the data, as shown below.

		News Preference	
		Internet	**Television**
Students	**Seventh Grade**	16	34
	Eighth Grade	10	15

   What is the relative frequency of eighth-grade students who prefer to obtain the news from the Internet to all the eighth-grade students surveyed?

5. **8.SP.1.3**

   The cost to hire a plumber for x hours is shown on the graph.

   COST TO HIRE A PLUMBER
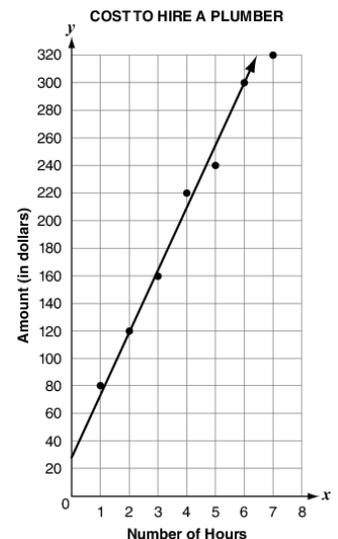
   For this graph, what does the y-intercept of the line of best fit mean in terms of the context?

Name: _____   Date: _____

8th Grade Math: Week 3 FSA Countdown   Period: _____

Day 4

1. **8.SP.1.1**

   Tony collected data on the years of employment and the annual salaries of the salespeople at Company Z. He made a scatterplot and drew a trend line that approximated the line of best fit for the data, as shown below. Tony expects his salary to be about $70,000 after he has been employed as a sales person at Company Z for 15 years. Use the trend line and slope to explain whether Tony's salary expectation is reasonable.

   Salaries of Salespeople at Company Z

   (9, $55,000)

   Salary / Years of Employment

DISTANCE COVERED BY ROBIN OVER TIME

Distance (in miles) / Time (in hours)

About how many hours will it take for Robin to travel 320 miles?
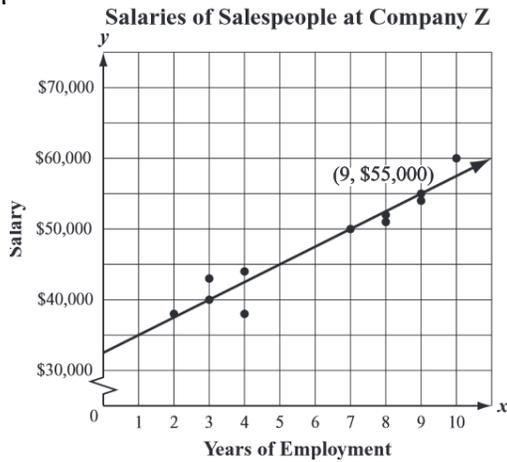
2. **8.SP.1.2**

   What can you conclude from the scatterplot shown below?

   Number of D's on Report Card / Hours of TV per Day

4. **8.SP.1.4**

   All 8th grade students at a school answered Yes or No to the two survey questions shown.
   - Do you have a cell phone?
        Yes   No
   - Do you have an MP3 player?
        Yes   No

   The same students responded to both questions. Complete the two-way frequency table to show the correct totals for the given data.

	MP3 Player	No MP3 Player	Total
Cell Phone	57	122	
No Cell Phone	30	65	
Total			

5. **8.SP.1.4**

   Twenty-five students were surveyed and asked if they received an allowance and if they did chores. The table below summarizes their responses.

	Receive Allowance	No Allowance
Do Chores	15	5
Do Not Do Chores	3	2

   Of the students who do chores, what percent do not receive an allowance?

3. **8.SP.1.3**

   The scatter plot below represents the distance Robin has traveled in the first 6 hours of a trip. The linear equation representing the line is $y = 30x + 20$.

Name: _____   Date: _____
8th Grade Math: Week 3 FSA Countdown   Period: _____

Day 5

1. **8.SP.1.1**

   As an editor for a publishing company, Mateo kept track of the number of pages that were in each article or short story he edited and the number of typos he found in each. Below is a scatter plot showing the relationship between the number of pages and the number of typos.

   Where are the two most obvious outliers in Mateo's data set located? Explain what each coordinate represents in the context of this situation.
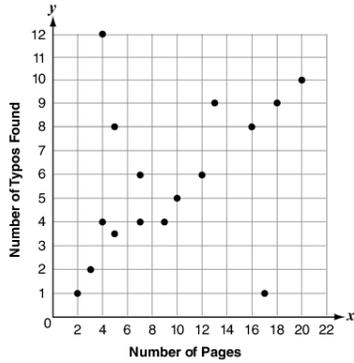
2. **8.SP.1.2**

   A class collected data comparing the number of frogs and the pH level of the water. They were trying to determine the relationship between these by drawing lines of best fit on the sets of data.
   Which set of data shows a line that most clearly represents this relationship?
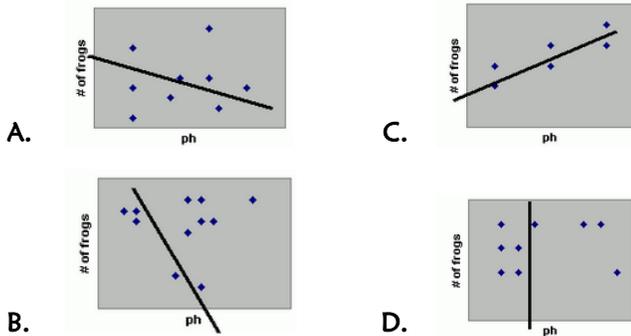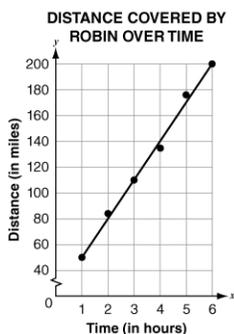
   A.   C.

   B.   D.

3. **8.SP.1.3**

   The scatter plot below represents the distance Robin has traveled in the first 6 hours of a trip. The linear equation representing the line is $y = 30x + 20$.

   Write a sentence explaining what the slope of the equation means in relation to the context of this problem.

   4. **8.SP.1.4**

Mr. Wallace surveyed 75 students at Poole Middle School to find out the students' favorite place to eat lunch. The results are shown below. Which table shows the approximate relative frequencies of Mr. Wallace's data?

FAVORITE PLACE TO EAT LUNCH

	Cafeteria	Outside	Total
Boys	16	21	37
Girls	24	14	38
Total	40	35	75

A.

FAVORITE PLACE TO EAT LUNCH

	Cafeteria	Outside	Total
Boys	16%	21%	37%
Girls	24%	14%	38%
Total	40%	35%	75%

C.

FAVORITE PLACE TO EAT LUNCH

	Cafeteria	Outside	Total
Boys	40%	60%	49%
Girls	60%	40%	51%
Total	100%	100%	100%

B.

FAVORITE PLACE TO EAT LUNCH

	Cafeteria	Outside	Total
Boys	21%	28%	49%
Girls	32%	19%	51%
Total	53%	47%	100%

D.

FAVORITE PLACE TO EAT LUNCH

	Cafeteria	Outside	Total
Boys	43%	57%	100%
Girls	63%	37%	100%
Total	53%	47%	100%

5. **8.SP.1.1**

   The plot shown below describes the relationship between the average income in a city and the average rent for a 1-bedroom apartment in that city.
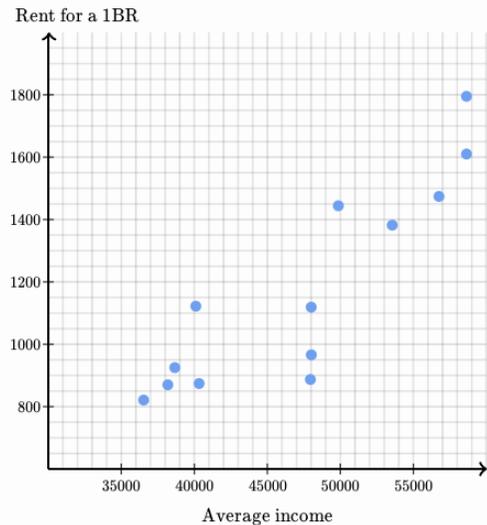
   What is the best description of this relationship?
   - A. No association
   - B. Positive linear association
   - C. Negative linear association
   - D. Nonlinear association

Day 1

1. **8.EE.3.7**
   Which statement is true about the equation below?
   $$3(2 - k) = -3k + 2$$

   A. The equation has no solution.
   B. The equation has one solution.
   C. The equation has two solutions.
   D. The equation has infinitely many solutions.

2. **8.EE.3.8**
   Which ordered pair is the solution of the system of equations below?

   $$\begin{cases} x + 2y = 6 \\ 3x + 8y = 4 \end{cases}$$

   A. $(2, 2)$
   B. $(4, 10)$
   C. $(10, -2)$
   D. $(20, -7)$

3. **8.G.3.9**
   A candy is in the shape of a sphere. The candy has a radius of 1.5 centimeters. Which of the following is closest to the volume of the candy? (Use 3.14 for π)
   A. 113 cm³
   B. 19 cm³
   C. 14 cm³
   D. 2 cm³

4. **8.NS.1.1**
   Which of the following numbers is **not** a rational number?
   A. -3
   B. 2.7
   C. $\sqrt{4}$
   D. $\sqrt{5}$

5. **8.NS.1.2**
   List the following expressions in order from least to greatest value.

   $$\sqrt{5}, \pi, \sqrt{3}$$

Day 2

1. **8.EE.3.7**
    What is the solution of the equation
    $3x + 7 = 1$?

2. **8.EE.3.8**
    Ted has some red blocks and some green blocks.

    - Each red block weighs the same number of ounces
    - Each green block weighs the same number of ounces
    - The total weight of 2 red blocks and 6 green blocks is 23 ounces
    - The total weight of 3 red blocks and 4 green blocks is 22 ounces

    What is the total weight of 1 red block **and** 1 green block?

    A. 3 ounces
    B. 6 ounces
    C. 6.5 ounces
    D. 13.5 ounces

3. **8.G.3.9**
    A mailing tube in the shape of a cylinder has a height of 24 inches and a radius of 3 inches. What is the volume, in cubic inches, of the mailing tube? (Use 3.14 for π)

4. **8.NS.1.1**
    For each number, indicate whether it is rational or irrational by placing a check mark in the correct column.

	Rational	Irrational
$\frac{4}{7}$	☐	☐
$\sqrt{30}$	☐	☐
$\frac{21}{\sqrt{4}}$	☐	☐
π	☐	☐
-27	☐	☐

5. **8.NS.1.2**
    Plot each number on the number line below.

$\frac{\sqrt{4}}{5}$	$\frac{\pi}{5}$	$\frac{3}{10}$

    ←+—+—+—+—+—+—+—+—+—+—+—+—+—+—+—+—+→
    0   0.1   0.2   0.3   0.4   0.5   0.6   0.7   0.8
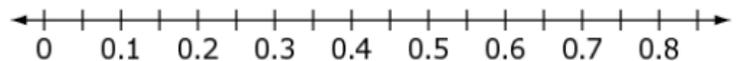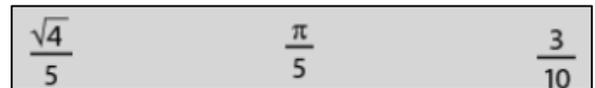
Day 3

1. **8.EE.3.7**

   Which of the following equations has infinitely many solutions?
   - A. $2x + 3 = 5 + 2x$
   - B. $2x + 3 = 5 + 3x$
   - C. $3x - 5 = -5 + 2x$
   - D. $3x - 5 = -5 + 3x$

2. **8.EE.3.8**

   The system of equations represented by lines p and q is shown on the graph below. Based on the graph, what is the solution of the system of equations?
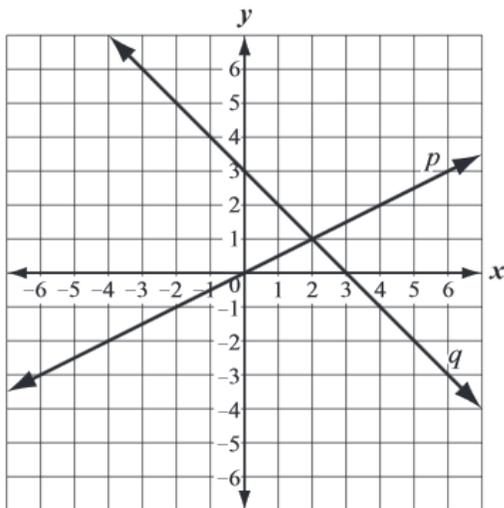
   - A. (0, 0)
   - B. (0, 3)
   - C. (2, 1)
   - D. (4, 2)

3. **8.G.3.9**

   A water tank is in the shape of a right circular cylinder with a height of 20 feet and a volume of 320π cubic feet. What is the diameter, in feet, of the water tank?
   - A. 16
   - B. 10
   - C. 8
   - D. 4

4. **8.NS.1.1**

   What is the sum of all the integers between $\sqrt{19}$ and $\sqrt{77}$?

5. **8.NS.1.2**

   Without using your calculator, label approximate locations for each of the following:

   | π | $-(\frac{1}{2} \times \pi)$ | $2\sqrt{2}$ | $\sqrt{17}$ |
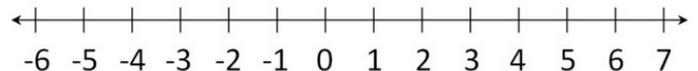
Day 4

1. **8.EE.3.7**

   Barb purchased a loaf of bread for $2 and p pounds of sliced ham at $5 per pound for a total of $13.25. The relationship between what she purchased and her total purchase price is represented by the equation $5p + 2 = 13.25$. What was the total number of pounds of ham that Barb purchased?

   A. 2.25 pounds
   B. 2.65 pounds
   C. 3.05 pounds
   D. 4.65 pounds

2. **8.EE.3.8**

   Jose solved this linear system correctly.
   $$6x + 3y = 6$$
   $$y = \text{-}2x + 2$$
   These are the last two steps of his work.
   $$6x - 6x + 6 = 6$$
   $$6 = 6$$
   Which statement about this linear system must be true?
   A. x must equal 6
   B. y must equal 6
   C. There is no solution to this system.
   D. There are infinitely many solutions to this system.

3. **8.G.3.9**

   A box contains 9 identical glass spheres that are used to make snow globes. The spheres are tightly packed, as shown below. What is the total volume, in cubic inches, of all 9 spheres? Round your answer to the nearest tenth of a cubic inch.

   12 in.

   12 in.
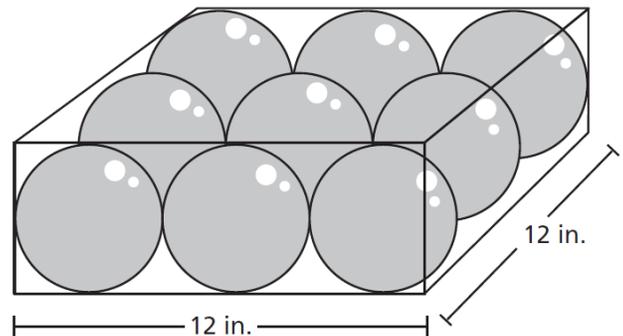
4. **8.NS.1.1**
   What is $\frac{5}{11}$ written as a decimal?

5. **8.NS.1.2**

   On a number line, let point P represent the largest integer value that is less than $\sqrt{223}$. Let point Q represent the largest integer value that is less than $\sqrt{68}$. What is the distance between P and Q?

Day 5

1. **8.EE.3.7**
   What is the solution to the equation
   $2(x - 3) = 2x + 5$?
   A. $x = 2\frac{3}{4}$

   B. $x = -2\frac{3}{4}$

   C. There is no solution.

   D. There are infinitely many solutions.

2. **8.EE.3.8**
   Lucy graphed a system of linear equations. What is the solution to the system of equations?
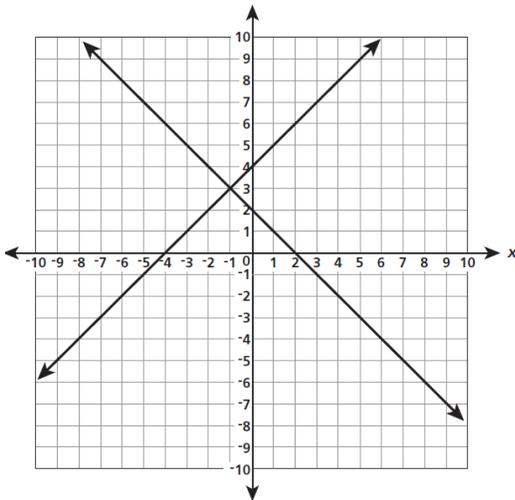
   A. (-4, 2)
   B. (-1, 3)
   C. (0, 2)
   D. (2, 4)

3. **8.G.3.9**

A water tank is in the shape of a right circular cylinder with a height of 20 feet and a volume 320π of cubic feet. What is the radius, in feet, of the water tank?
   A. 16 feet
   B. 10 feet
   C. 8 feet
   D. 4 feet

4. **8.NS.1.1**
   Which numbers are irrational? Select all that apply.
   ☐ A. $\sqrt{7}$
   ☐ B. 4π
   ☐ C. 3.2
   ☐ D. 0.45
   ☐ E. $0.24\overline{5}$
   ☐ F. $\frac{\pi}{2}$
   ☐ G. $\sqrt{1}$

5. **8.NS.1.2**
   Which numbers are between 4 and 5? Select all that apply.
   ☐ A. $3\sqrt{2}$
   ☐ B. $2\sqrt{\pi}$
   ☐ C. $\frac{1}{2}\sqrt{68}$
   ☐ D. $\sqrt{17}$
   ☐ E. $2\sqrt{7}$

Day 1

1. **8.EE.1.1**

   What is the value of the expression $\dfrac{2^6}{2^2}$?

   A. 8
   B. 16
   C. 256
   D. 4096

2. **8.EE.1.2**

   What is the value of the expression below?
   $$\sqrt{25} - 9 \cdot 2^3$$

   A. -67
   B. -48
   C. 24
   D. 32

3. **8.G.1.1**

   In the diagram below, Image 2 is a triangle that is the result of reflecting scalene $\triangle JKM$ first over l_1 and then over l_2. The angles of Image 2 are $\angle 1, \angle 2,$ and $\angle 3$. Which one of the following is true?
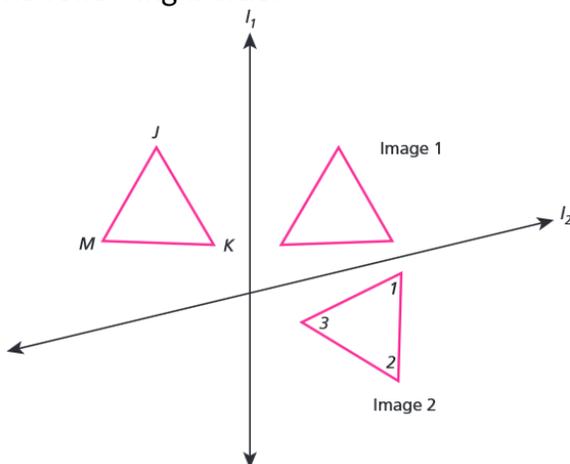
   A. $\angle J \cong \angle 1$ and $\angle M \cong \angle 3$
   B. $\angle J \cong \angle 3$ and $\angle M \cong \angle 1$
   C. $\angle K \cong \angle 1$ and $\angle M \cong \angle 3$
   D. $\angle K \cong \angle 3$ and $\angle M \cong \angle 1$

4. **8.G.1.2**

   Frank wrote his initial to the left of a line, as shown to the right. Then he reflected his initial over the line. Which of the following shows Frank's initial after the reflection?

   A.   C.

   B.   D.
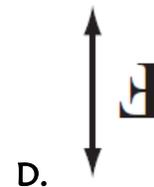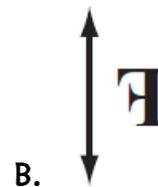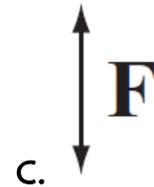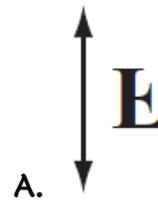
5. **8.G.1.3**

   A sequence of transformations is applied to a polygon. Select **all** statements which indicate a sequence of transformations where the resulting polygon has an area greater than the original polygon.

   ☐ A. Translate seven units left, rotate 90º clockwise about the origin.

   ☐ B. Reflect over the *x*-axis, dilate about the origin by a scale factor of $\frac{1}{2}$, translate up 5 units.

   ☐ C. Rotate 90º counterclockwise around the origin, dilate about the origin by a scale factor of $\frac{3}{2}$.

   ☐ D. Dilate about the origin by a scale factor of $\frac{2}{3}$, rotate 180º clockwise around the origin, translate down 2 units.

   ☐ E. Dilate about the origin by a scale factor of 2, reflect over the *y*-axis, dilate about the origin by a scale factor of $\frac{2}{3}$.

Day 2

1. **8.EE.1.1**

   What is the value of the expression $(-2)^3(-2)^2$?

   A. -64
   B. -32
   C. 32
   D. 64

2. **8.EE.1.2**

   The volume of a cube is 64 cubic inches. What is the length of one edge of the cube?

   A. 4 inches
   B. 8 inches
   C. 21 inches
   D. 32 inches

3. **8.G.1.1**

   Figure 1 can be transformed to create Figure 2 using a single transformation. Which transformation can be used to accomplish this?
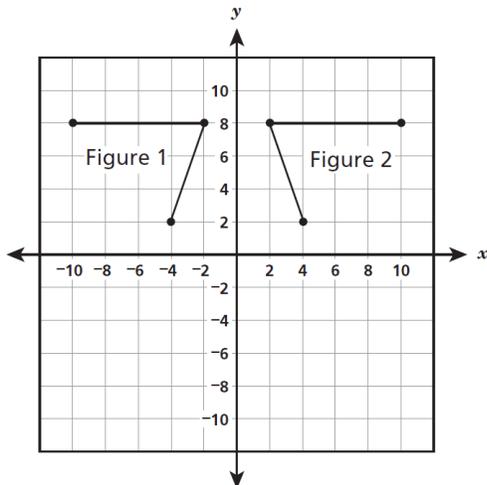
   A. Dilation
   B. Rotation
   C. Reflection
   D. Translation

4. **8.G.1.2**

   A mathematical puzzle uses four triangles with the dimensions show below. Which of the following triangles are congruent?
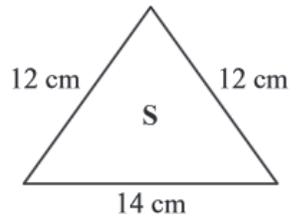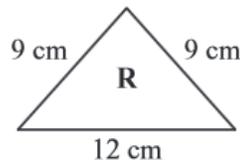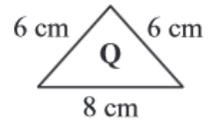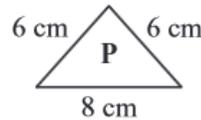
   A. P and Q
   B. Q and R
   C. R and S
   D. S and P

5. **8.G.1.3**

   Pentagon PQRST is shown on the coordinate grid below. Given that the pentagon was rotated 180° clockwise and labeled P'Q'R'S'T', what are the coordinates of T'?
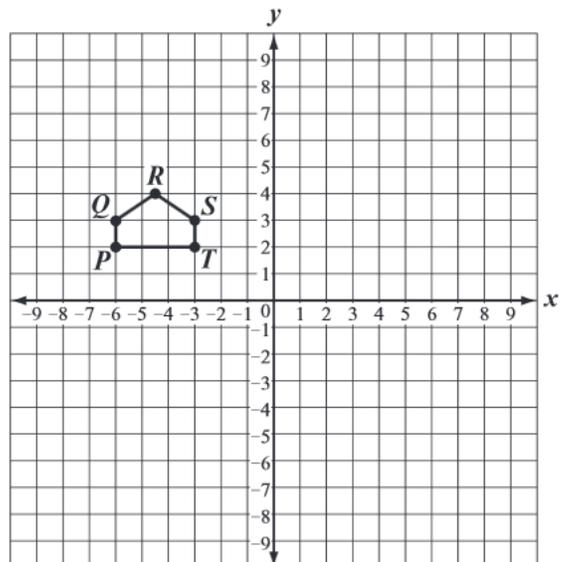
Day 3

1. **8.EE.1.1**

   Simplify $\dfrac{4^8}{4^{-4}}$

   A. 4^{-32}

   B. 4^{-2}

   C. 4^4

   D. 4^{12}

2. **8.EE.1.2**

   What is the value of the expression below?

   $$\left(\sqrt{9}\right)^2 + 10$$

   A. 13
   B. 16
   C. 19
   D. 28

3. **8.G.1.1**

   Segment *FG* begins at point *F*(-2, 4) and ends at point *G*(-2, -3). The segment is translated 3 units left and 2 units up, then reflected across the *y*-axis to form segment *F'G'*.

   How many units long is segment *F'G'*?

4. **8.G.1.2**

   Pentagon PQRST is shown on the coordinate grid below. Given that the pentagon was translated 6 units to the right and labeled P'Q'R'S'T', what are the coordinates of T'?
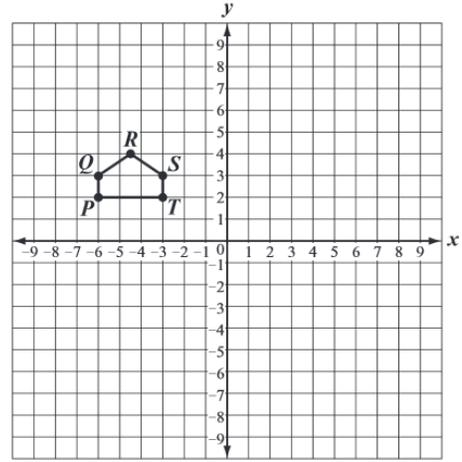
5. **8.G.1.3**

   Seth drew a figure on a coordinate grid and labeled one point P, as shown below. He then rotated the figure 180° counterclockwise around point P.
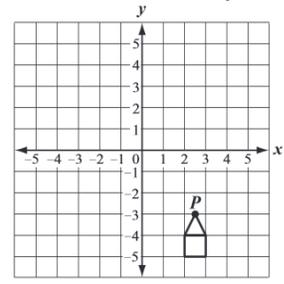
   Which of the following shows the figure after Seth rotated it?

   A.

   C.

   B.

   D.

Day 4

1. 8.EE.1.1

   Which expression is **not** equivalent to $\dfrac{6^3}{6^6}$?

   A. $\dfrac{1}{6^{-2}}$

   B. 6^{-3}

   C. $\dfrac{1}{216}$

   D. $\dfrac{1}{6^3}$

2. 8.EE.1.2

   Solve: $x^2 = \dfrac{4}{9}$

3. 8.G.1.1

   Quadrilateral *ABCD* is translated 3 units right and 2 units up. Then it is rotated 270° counterclockwise about the origin resulting in quadrilateral *PQRS*, as shown below.
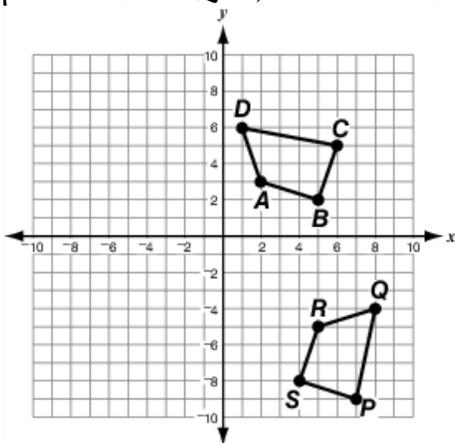
   How does the perimeter of quadrilateral *ABCD* compare with the perimeter of *PQRS*? Explain.

4. 8.G.1.2

   Which sequence of transformations takes ΔA to its image, ΔB?
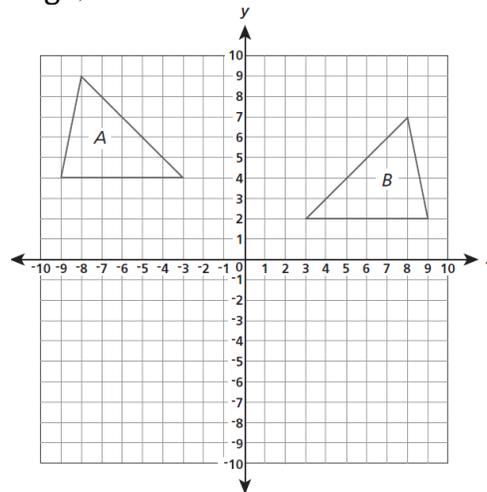
   A. Reflection over the x-axis and translation 2 units down
   B. Reflection over the y-axis and translation 2 units down
   C. Translation 2 units down and 90° rotation about the origin
   D. Translation 12 units right and 90° rotation about the origin

5. 8.G.1.3

   If ΔABC is rotated 90° clockwise about the origin, what will be the new coordinates of vertex B?
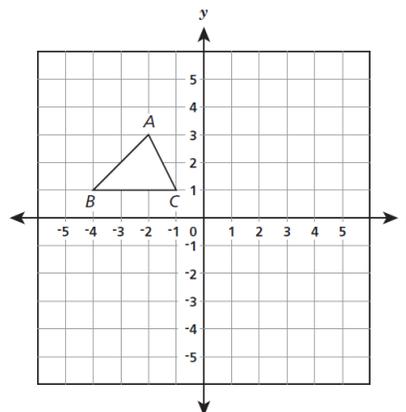
   A. (-1, -4)
   B. (1, 4)
   C. (4, 1)
   D. (4, -1)

Day 5

1. **8.EE.1.1**

    Which number is equivalent to $\dfrac{3^4}{3^2}$?

    A. 2
    B. 9
    C. 81
    D. 729

2. **8.EE.1.2**
    Use the numbers shown below to make the equations true. **Each number can be used only once.** To use a number, write it in the appropriate box in one of the equations.

4	8	10	64	100	1,000

    $\sqrt{\boxed{}} = \boxed{}$ $\sqrt[3]{\boxed{}} = \boxed{}$

3. **8.G.1.1**
    $\triangle ABC$ with $m\angle A = 40^0$, $m\angle B = 60^0$, $m\angle C = 80^0$ is reflected across the x-axis to obtain $\triangle A'B'C'$. What is the measure, in degrees of $\angle B$?

4. **8.G.1.2**
    A sequence of transformations was applied to an equilateral triangle in a coordinate plane. The transformations used were rotation, reflections, and translations. Which statement about the resulting figure is true?

    A. It must be an equilateral triangle with the same side lengths as the original triangle.
    B. It must be an equilateral triangle, but the side lengths may differ from the original triangle.
    C. It may be a scalene triangle, and all the side lengths may differ from the original triangle.
    D. It may be an obtuse triangle with at least one side the same length as the original triangle.

5. **8.G.1.3**
    The circle shown below is centered at (0, 0) and passes through point P located at (2, 0). The circle is dilated with the center of dilation at the origin and a scale factor of 0.5 and then translated up 3 units. What are the coordinates of the image of point P after this transformation?
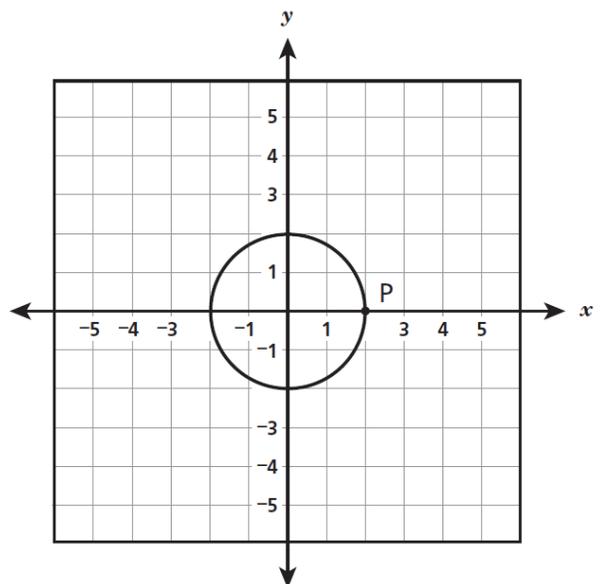

    A. (4, 3)
    B. (1, 3)
    C. (1, 1.5)
   D. (0.5, 3)

Day 1

1. **8.G.1.4**

   Triangle EFG is similar to triangle TUV, as shown below. Based on the measurements of the triangles, what is the measure of angle U?
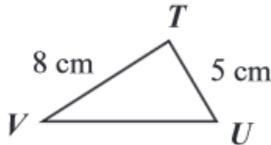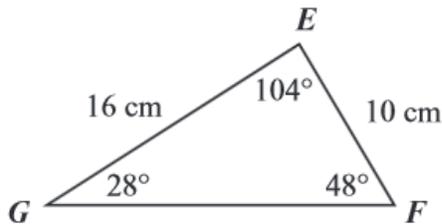
   A. 24°
   B. 28°
   C. 48°
   D. 52°

2. **8.G.1.5**

   What is $m\angle 5$ if $m\angle 2$ is 45° and $m\angle 3$ is 60°?
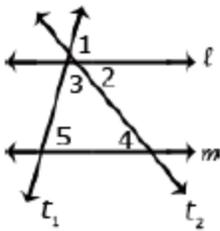
3. **8.G.2.6**

   The distance from Jonestown to Maryville is 180 miles, the distance from Maryville to Elm City is 300 miles, and the distance from Elm City to Jonestown is 240 miles. Do the three towns form a right triangle? Explain.

4. **8.G.2.7**

   A stained glass window is in the shape of a square. A sketch of the window, with some of its dimensions, is shown below. What is the length, to the nearest tenth of a foot, of the line segment labeled x?
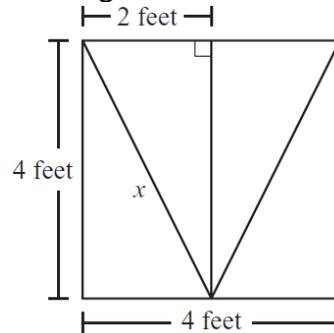
   A. 5.7 feet
   B. 4.5 feet
   C. 3.5 feet
   D. 2.4 feet

5. **8.G.2.8**

   Right triangle LMN is shown on the coordinate grid below. Which of the following is the length, in units, of line segment MN?
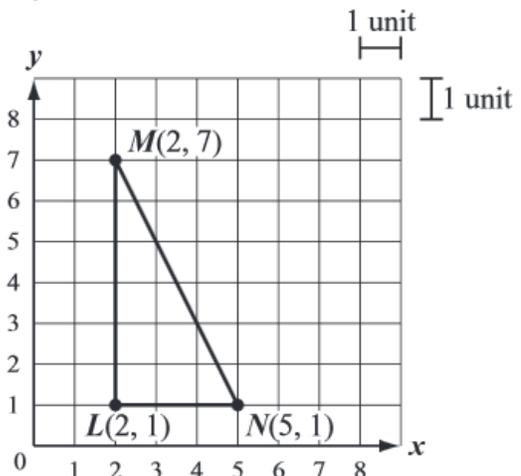
   A. 18^2
   B. $\sqrt{18}$
   C. 45^2
   D. $\sqrt{45}$

Day 2

1. **8.G.1.4**

   Triangle ABC was rotated 90° clockwise. Then it underwent a dilation centered at the origin with a scale factor of 4. Triangle A'B'C' is the resulting image. What parts of ΔA'B'C' are congruent to the corresponding parts of the original triangle? Explain your reasoning.

2. **8.G.1.5**

   In the figure below, $m\angle ABC = 57°$ and $m\angle DAB = 116°$. What is $m\angle ACB$?

   B

   57°

   116° $\angle ACB = ?$

   D   *A*   *C*
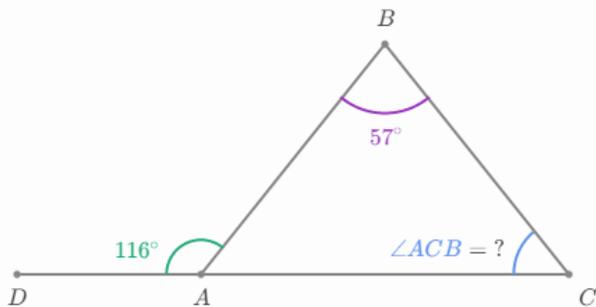
   Not drawn to scale

3. **8.G.2.6**

   Which of the following statements about the Pythagorean Theorem and its converse are true?

   A. If a triangle is a right triangle with legs of length *a* and *b* and a hypotenuse of length *c*, then $a^2 + b^2 = c^2$.

   B. If a triangle has side lengths *a*, *b*, and *c* such that $a^2 + b^2 = c^2$, then the triangle is a right triangle.

   C. Both answers A and B are true.

   D. Both answers A and B are NOT true.

4. **8.G.2.7**

   The students in a science club planted a rectangular flower garden in front of their school. The garden is 6 feet wide and has a diagonal length of 10 feet. What is *x*, the length in feed of the garden?

   x

   6 feet   10 feet
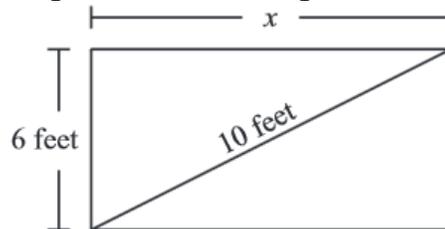
5. **8.G.2.8**

   The points show different locations in Joe's town. Each unit represents 1 mile.

   Places in Joe's Town

   y

   Library   Joe's Home

                              School

   Park ● 1

   −4 −3 −2 −1 0   1   2   3   4 →*x*
                    −1

                    −2
                        Grocery
                    −3

                    −4
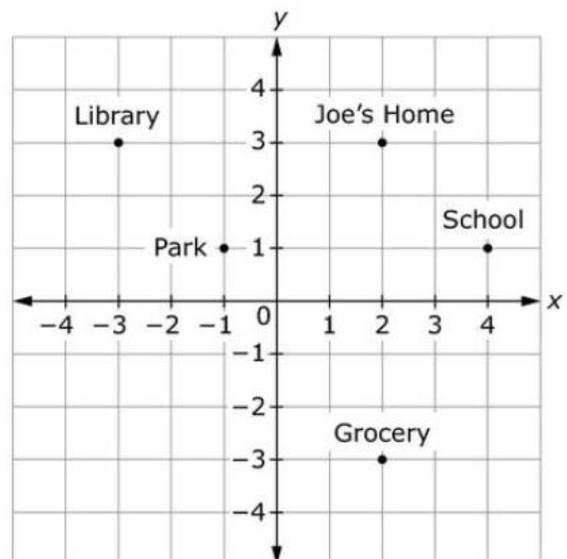
   What is the shortest distance between Joe's home and the park, to the nearest tenth of a mile?

Day 3

1. **8.G.1.4**

   Triangle ABC was rotated 90° clockwise. Then it underwent a dilation centered at the origin with a scale factor of 4. Triangle A'B'C' is the resulting image. Compare the perimeters of ∆ABC and ∆A'B'C'. Explain your reasoning.

2. **8.G.1.5**

   Line *HI* is parallel to line *JK*.
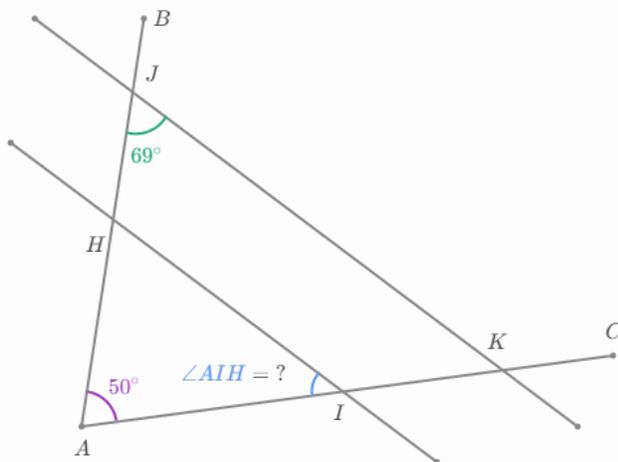
   What is *m∠AIH*?

3. **8.G.2.6**

   Which set of numbers form a right triangle?
   - A. 6.2, 7.3, 8.5
   - B. 7, 24, 25
   - C. 9, 12.5, 16.8
   - D. 12, 34, 37

4. **8.G.2.7**

   A 13-foot ladder is leaning on a tree. The bottom of the ladder is on the ground at a distance of 5 feet from the base of the tree. The base of the tree and the ground form a right angle as shown.
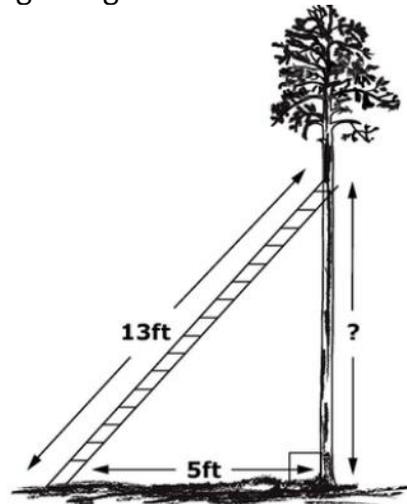
   What is the distance between the ground and the top of the ladder?

5. **8.G.2.8**

   What is the distance between (0, 0) and (8, 15) on the coordinate plane?
   - A. 7 units
   - B. 8 units
   - C. 17 units
   - D. 23 units

Day 4

1. **8.G.1.4**

   Rectangle R undergoes a dilation with scale factor 0.5 and then a reflection over the y-axis. The resulting image is Rectangle S. Which statement about Rectangle R and S is true?

   A. They are congruent and similar.
   B. They are similar but not congruent.
   C. They are congruent but not similar.
   D. They are neither congruent nor similar.

2. **8.G.1.5**

   The diagram below shows the angles formed by some intersecting lines.
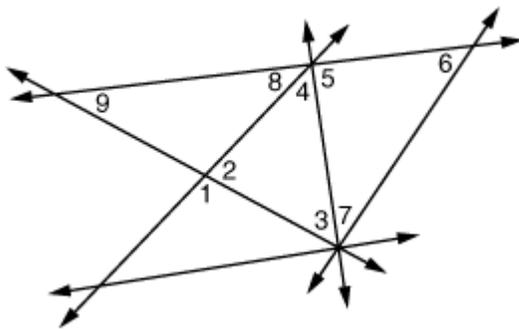
   If $m\angle 8 = 34°$ and $m\angle 9 = 40°$, what are $m\angle 1$ and $m\angle 2$? Explain how you know.

3. **8.G.2.6**

   Which set of numbers does **not** form a right triangle?

   A. 14, 48, 50
   B. 15, 20, 25
   C. 21, 28, 35
   D. 27, 35, 46

4. **8.G.2.7**

   $\triangle ABC$ is a right triangle. The lengths of the legs are 21 and 28 centimeters. What is the length of the hypotenuse?

5. **8.G.2.8**

   Quadrilateral $PQRS$ is graphed in the coordinate plane.
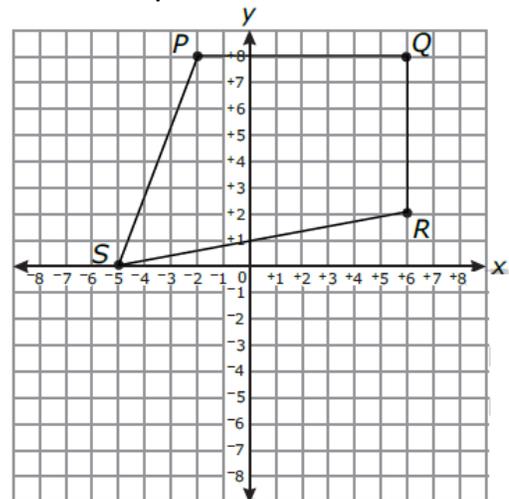
   To the nearest tenth, what is the perimeter of quadrilateral $PQRS$?

Day 5

1. **8.G.1.4**
   Triangle *ABC* goes through a series of transformations and creates triangle *DEF* as shown on this coordinate grid.
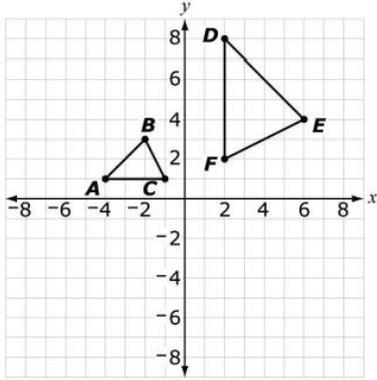
   Describe a sequence of transformations that verify that these triangles are geometrically similar.

2. **8.G.1.5**
   Find the value of *x* in the figure below.

   $(3x + 45°)$

   $(5x - 75°)$

   $(2x - 30°)$
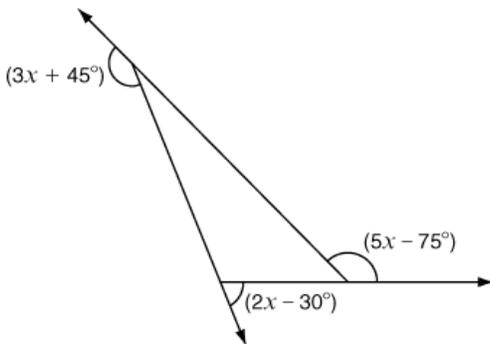
3. **8.G.2.6**
   How does the diagram below illustrate the Pythagorean Theorem?
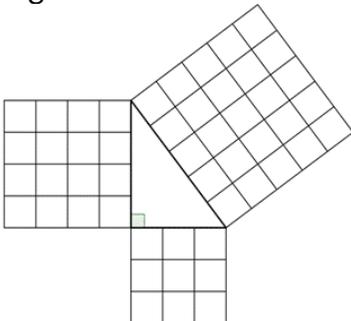
4. **8.G.2.7**

What is the base, *x*, of the isosceles trapezoid rounded to the nearest hundredth of a centimeter?

8 cm

8 cm   8 cm

6 cm

x
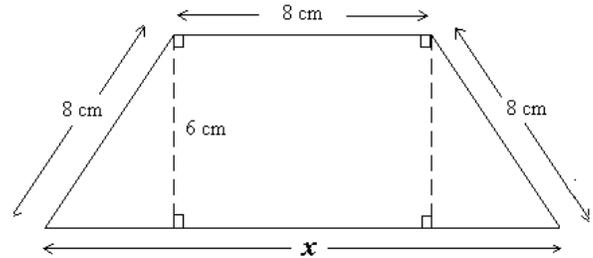
5. **8.G.2.8**
   What is the distance between *A*(5, 4) and *B*(2, -3)?
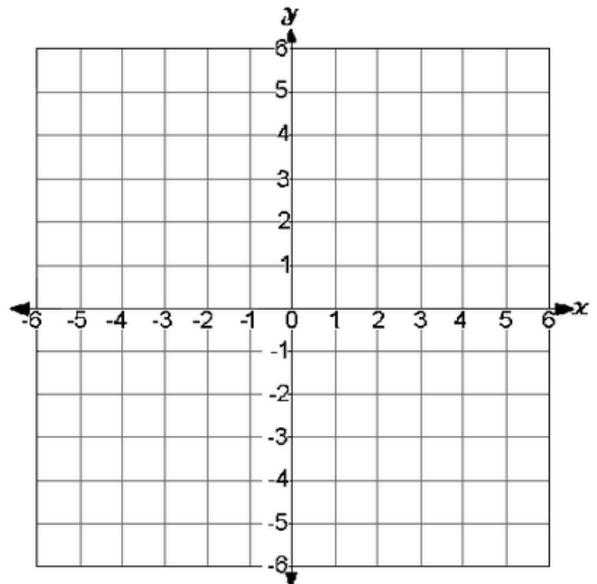
Day 1

1. **8.F.1.1**
   Point A is plotted on the coordinate plane below. Determine the location of point C given the following criteria:
   - Point C has integer coordinates.
   - The graph of line AC is **not** a function.
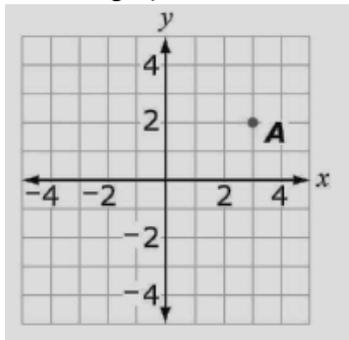
2. **8.F.1.2**
   Shawn and Mary wrote down two different functions that have the same rate of change. Shawn's function is represented by the table shown.

x	y
-1	-5
1	-1
3	3

   Graph a function that could be Mary's function on the coordinate plane below.
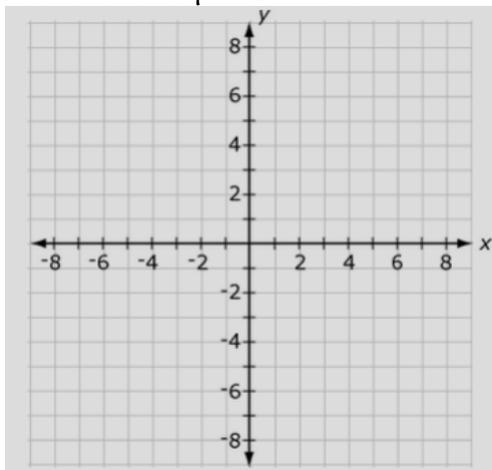
3. **8.F.1.3**
   Which equation represents a linear function?
   A. $y = \frac{4}{x} + 1$
   B. $y = x^2 + 1$
   C. $y = \sqrt[3]{x + 1}$
   D. $y = -\frac{2}{3}x - \frac{1}{2}$

4. **8.F.2.4**
   Some of the students from Millennium Middle School are taking a trip to a museum. In all, fewer than 60 students will go on the trip. The cost for food and admission to the museum is $18 per student. What is the total cost for food and admission to the museum for 15 students? Show or explain how you got your answer.

5. **8.F.2.5**
   Samantha takes her sister Bethany to the playground. While they are there, they do the following activities:
   - Bethany rides on the seesaw.
   - Samantha pushes Bethany on the swing.
   - Bethany climbs up the ladder and slides down the slide.

   The graphs of Bethany's activities are shown.
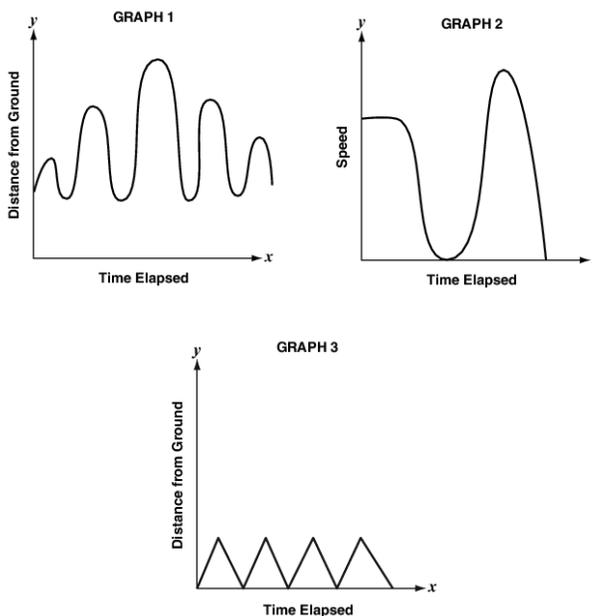
   Which graph represents Bethany's ride on the swing?

Day 2

1. **8.F.1.1**
   The equation of a function is $f(x) = 6 + x$. What is the output when the input is 2?

2. **8.F.1.2**
   Consider the two linear functions represented by the equation and the table below.

   Function 1: $y = \frac{1}{2}x - 4$

   Function 2:

x	y
−10	−25
−6	−17
−3	−11

   Which function has a smaller rate of change?

3. **8.F.1.3**
   Does the equation below define a linear function? Explain your reasoning.
   $$y = \frac{3}{x}, when\ x \neq 0$$

4. **8.F.2.4**
   Some of the students from Millennium Middle School are taking a trip to a museum. In all, fewer than 60 students will go on the trip. The cost for food and admission to the museum is $18 per student. The students will travel on one bus to the museum. The cost of the bus is $800. Complete the table below to show the total cost for food, admission, and the bus for different numbers of students to the museum. (You will need this answer for tomorrow's question)

Student Trip to the Museum

Number of Students	Total Cost for Food, Admission, and the Bus
0	$ 800
20	$1160
30	
40	
50	

5. **8.F.2.5**
   Samantha takes her sister Bethany to the playground. While they are there, they do the following activities:
   - Bethany rides on the seesaw.
   - Samantha pushes Bethany on the swing.
   - Bethany climbs up the ladder and slides down the slide.

   The graphs of Bethany's activities are shown.
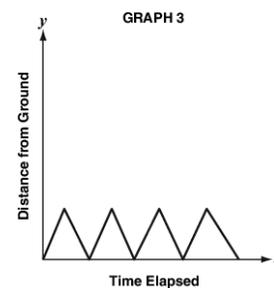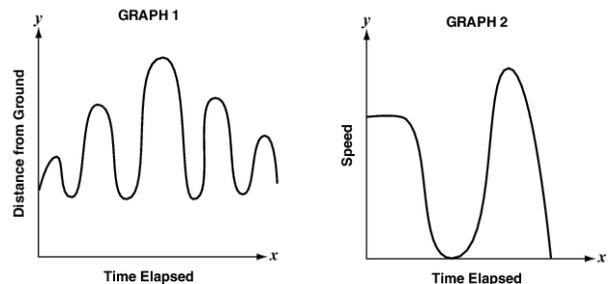
   Which graph represents Bethany's ride on the slide?

Day 3

1. **8.F.1.1**
   Which of the following shapes could **not** be the graph of a function?
   - **A.** A point
   - **B.** A vertical line
   - **C.** A horizontal line
   - **D.** A line that gradually increases

2. **8.F.1.2**
   Giovanni and Jake both left their homes at the same time and drove through side streets toward the highway. The speed, s, of Giovanni's car t seconds after reaching the highway is given by the equation $s = 20 + 5t$. The graph below shows the speed of Jake's car t seconds after reaching the highway.
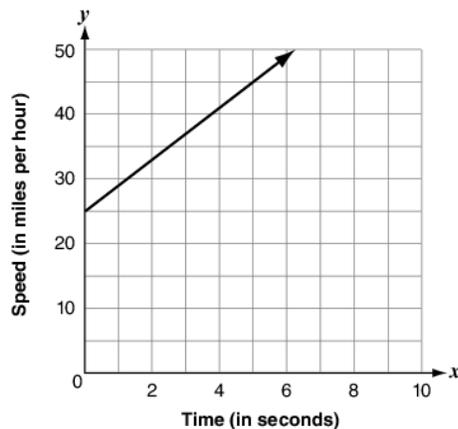
   Whose car's speed is changing at a faster rate in the first ten seconds after reaching the highway?

3. **8.F.1.3**
   Which function is nonlinear?
   - **A.** $y = \frac{3x+1}{2}$
   - **B.** $y = -x$
   - **C.** $y = 2x(x - 4)$
   - **D.** $y = \frac{1}{2}x - 7$

4. **8.F.2.4**
   Use question 4 from Day 2 to write an expression that can be used to find the total cost for food, admission, and the bus for n students from Millennium Middle School to go to the museum. (You will need this answer for tomorrow's question)

5. **8.F.2.5**
   The graph below represents the time in minutes it took Christine to get from her house to the office including the time it took to pick up two friends, Lara and Jim, along the way. The y-axis represents the distance traveled by Christine throughout her morning commute to work.
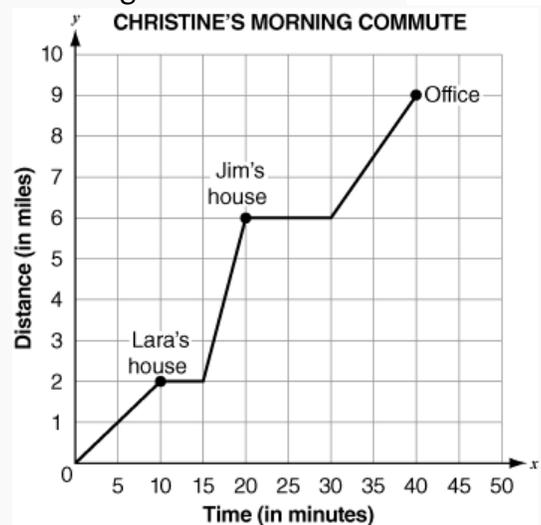
   In which portion of the trip did Christine have the highest average speed? Explain.

Day 4

1. **8.F.1.1**

   The ordered pairs shown below represent a relation R.

   $R = \{(-2, 2), (2, -2), (-4, 4), (4, -4)\}$

   Is the relation R a function? Explain why or why not.

2. **8.F.1.2**

   Giovanni and Jake both left their homes at the same time and drove through side streets toward the highway. The speed, s, of Giovanni's car t seconds after reaching the highway is given by the equation $s = 20 + 5t$. The graph below shows the speed of Jake's car t seconds after reaching the highway.
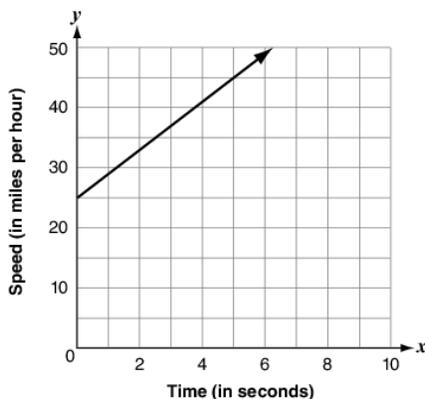
   Who was driving at a slower speed just before reaching the highway?

3. **8.F.1.3**

   Which equations represent linear functions? Select all that apply.

   ☐ **A.** $y = 2x$

   ☐ **B.** $x = 8$

   ☐ **C.** $y = 5x^2 + 2$

   ☐ **D.** $y = \frac{1}{2}x^2$

   ☐ **E.** $y = -2x + 1$

4. **8.F.2.4**

   Use the expression you wrote for Day 3 in question 4 for the following question. A total of 44 students go to the museum. What is the total cost, for food, admission, and the bus, **per student** to go to the museum? Show or explain how you got your answer.

5. **8.F.2.5**

   The graph below represents the time in minutes it took Christine to get from her house to the office including the time it took to pick up two friends, Lara and Jim, along the way. The y-axis represents the distance traveled by Christine throughout her morning commute to work.
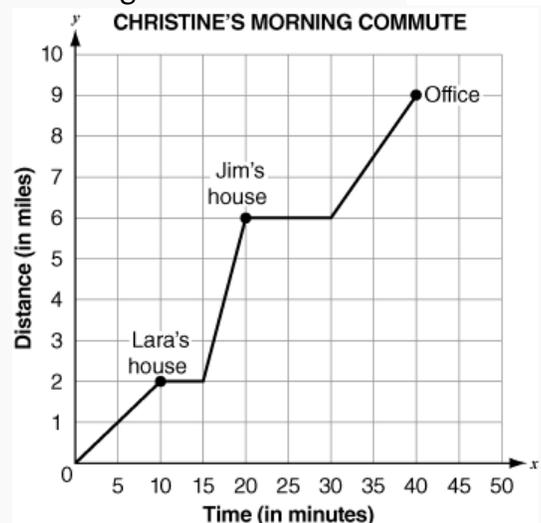
   What do the horizontal lines (after Lara's house and Jim's house) represent? Explain.

Day 5

1. **8.F.1.1**

   Complete the function table below function $f(x) = 6x - 3$.

x	$f(x)$
-1	
0	
1	
2	

2. **8.F.1.2**

   At an internet cafe, there is a flat fee to log into a computer and an additional charge for each minute on the computer. The fee (in dollars) for using a Mac for x minutes is given by
   $$M = 0.5 + 0.07x.$$
   The charge for using a PC for x minutes is shown in the graph below.
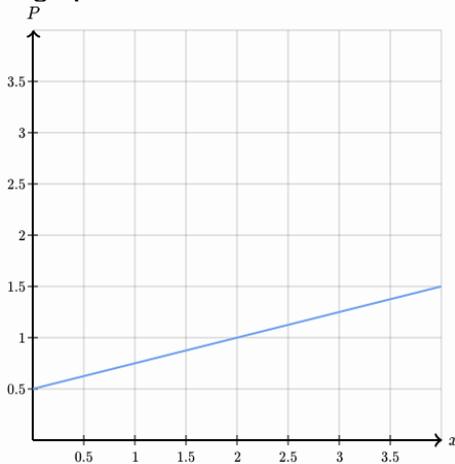
   Which kind of machine has a larger flat fee just to log in?

3. **8.F.1.3**

   Does the equation below represent a linear relationship? Justify your response.
 $$2x - 5y = -15$$

4. **8.F.2.4**

   Juan purchased one binder for $3.50 and f folders for $1.25 each. The total cost, C, in dollars, of Juan's purchase is represented by the equation below.
 $$C = 3.50 + 1.25f$$
   Which of the following graphs represents C, the total cost of Juan's purchase if he buys different number of folders?
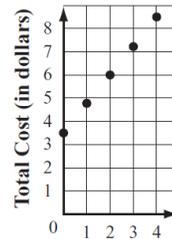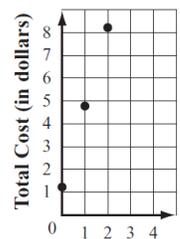
   A.   **B.**

   C.   **D.**

5. **8.F.2.5**

   The graph below represents the time in minutes it took Christine to get from her house to the office including the time it took to pick up two friends, Lara and Jim, along the way. The y-axis represents the distance traveled by Christine throughout her morning commute to work.

   How many miles away is Lara's house from Jim's house?

Day 1

1. 8.EE.1.1

Which expression is equivalent to $4^7 \times 4^{-5}$?

A. 4^{12}

B. 4^2

C. 4^{-2}

D. 4^{-35}

2. 8.EE.1.2

Solve: $x^3 = \dfrac{1}{8}$

3. 8.EE.1.3

Which numbers are **not** expressed in scientific notation? Select all that apply.

☐ A. 34.5×10^7
☐ B. 5.02×10^3
☐ C. 2×10^9
☐ D. 0.4×10^1
☐ E. 7.29×10^{-3}

4. 8.G.3.9

A cone with radius 4 feet is shown. Its approximate volume is 165 cubic feet.
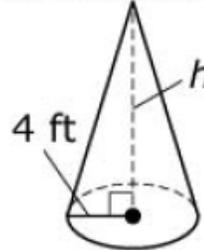

What is the height of the cone, in feet? Round your answer to the nearest hundredth. (Use 3.14 for π.)

5. 8.EE.1.1

What is the value of the expression below?

$$\frac{4^3 \cdot 4^{-1} \cdot 5^{-2}}{4^4 \cdot 5^{-3} \cdot 5^0}$$

Day 2

1. **8.EE.1.1**

   Which of the following expressions is **not** equivalent to $\frac{1}{25}$?

   A. $5^3 \times 5^{-5}$
   B. $5^{-1} \times 5^{-1}$
   C. $5^{-3} \times 5$
   D. $5^{-2} \times 5^4$

2. **8.EE.1.2**

   Classify the numbers given below as perfect squares and perfect cubes. To classify a number, write it in the appropriate column in the table shown. Numbers that are neither perfect squares nor perfect cubes should **not** be placed in the table.

   | 1 | 64 | 96 | 125 | 200 | 256 | 333 | 361 |

Perfect Squares but NOT Perfect Cubes	Both Perfect Squares AND Perfect Cubes	Perfect Cubes but NOT Perfect Squares

3. **8.EE.1.3**

   The body length of a daddy long-legs spider is about 0.000002 kilometer. Write this length in scientific notation.

   A. 2×10^{-6} kilometer
   B. 2×10^{-5} kilometer
   C. 2×10^{5} kilometer
   D. 2×10^{6} kilometer

4. **8.G.3.9**

   What is the **approximate** volume of the cone below?
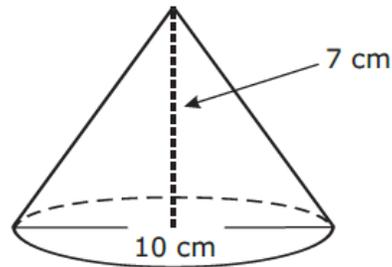
   A. 70 cm³
   B. 183 cm³
   C. 549 cm³
   D. 733 cm³

5. **8.EE.1.2**

   A cube has a volume of 216 cubic units. What is the length of an edge of the cube?

   A. 4 units
   B. 5 units
   C. 6 units
   D. 7 units

Name: _____   Date: _____
8th Grade Math: Week 8 FSA Countdown   Period: _____

Day 3

1. **8.EE.1.1**
   Find the value of the expression below.

   $$\frac{(3^2)^4}{(3^2)(3^3)}$$

2. **8.EE.1.2**
   A square has an area of 64 square units.
   What is the length of a side of the square?
   - **A.** 4 units
   - **B.** 8 units
   - **C.** 16 units
   - **D.** 32 units

3. **8.EE.1.3**
   Use powers of 10 to complete the table of equivalent expressions.

Number	Equivalent Expression
20 million	2 x ____
20 ten thousandths	2 x ____
20 hundredths	2 x ____
20 tens	2 x ____

4. **8.G.3.9**
   This cone and sphere have equal volumes.

   27 centimeters

   32 centimeters
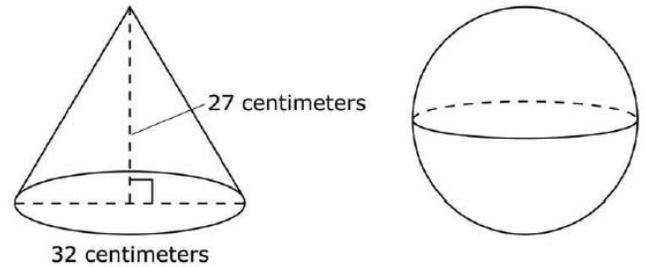
   not drawn to scale

   What is the radius of the sphere?

5. **8.EE.1.2**
   Miguel claims that x^2 is the same as $2x$. Do you agree or disagree? Explain.

Day 4

1. **8.EE.1.1**
   Select **all** of the expressions that have a value between 0 and 1.

   ☐ **A.** $8^7 \cdot 8^{-12}$

   ☐ **B.** $\dfrac{7^4}{7^{-3}}$

   ☐ **C.** $\left(\dfrac{1}{3}\right)^2 \cdot \left(\dfrac{1}{3}\right)^9$

   ☐ **D.** $\dfrac{(-5)^6}{(-5)^{10}}$

   ☐ **E.** $(-3)^0$

2. **8.EE.1.2**
   Circle the word that correctly completes the statement below. Explain.

   The cube root of a positive number will

sometimes
always
never

   be negative.

3. **8.EE.1.3**
   When writing the numbers below in scientific notation, which will include the power of 10^{-3}? Select all that apply.
   ☐ **A.** 0.0020
   ☐ **B.** 2,000
   ☐ **C.** 0.008
   ☐ **D.** 0.100

☐ **E.** 10.000

4. **8.G.3.9**
   James wanted to plant pansies in his new planter. He wondered how much potting soil he should buy to fill it. Use the measurements in the diagram below to determine the planter's volume. Give your answer in terms of π.

   100 cm

   40 cm

   cylindrical planter
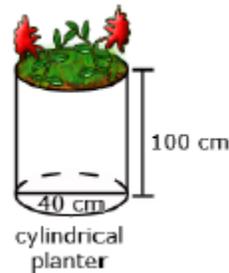
5. **8.EE.1.3**
   Which statement is true?
   A. 5×10^3 is 1,000,000 times as great as 5×10^{-2}.
   B. 5×10^3 is 100,000 times as great as 5×10^{-2}.
   C. 5×10^3 is 10,000 times as great as 5×10^{-2}.
   D. 5×10^3 is 1,000 times as great as 5×10^{-2}.

Day 5

1. **8.EE.1.1**
   Which expression is equivalent to 3^{-3}?

   A. $\dfrac{3^0}{3^2}$

   B. $\dfrac{1}{3^{-3} \times 3^3}$

   C. $\dfrac{3^6}{3^3 \times 3}$

   D. $(3^3)^{-1}$

2. **8.EE.1.2**
   Which expressions have a value that is between 9 and 10. Select all that apply.
   - ☐ A. $\sqrt{80}$
   - ☐ B. $\sqrt{89}$
   - ☐ C. $\sqrt{101}$
   - ☐ D. $\sqrt[3]{725}$
   - ☐ E. $\sqrt[3]{750}$
   - ☐ F. $\sqrt[3]{999}$
   - ☐ G. $\sqrt[3]{1010}$

3. **8.EE.1.3**
   8×10^7 is 4000 times as large as what number?

4. **8.G.3.9**
   Juan needs a right cylindrical storage tank that holds between 110 and 115 cubic feet of water.
   Using whole numbers only, provide the radius and height for 2 different tanks that hold between 110 and 115 cubic feet of water.

   Tank #1   Tank #2

   radius = ☐ ft.   radius = ☐ ft.

   height = ☐ ft.   height = ☐ ft.

5. **8.G.3.9**
   Approximately how much air would be needed to fill a soccer ball with a radius of 14 cm? Round to the nearest cubic centimeter.

Day 1

1. **8.EE.1.4**

   A computer can do 1000 operations in 4.5 x 10^{-6} seconds. How many operations can be done by this computer in one hour? Express your answer in scientific notation.

2. **8.EE.2.5**

   Students organized a 12-hour "dance-a-thon" as a fundraiser for the summer camp. The graph below represents the amount of money they raised during the first 8 hours. What was the amount of money raised **per hour** during the first 8 hours?
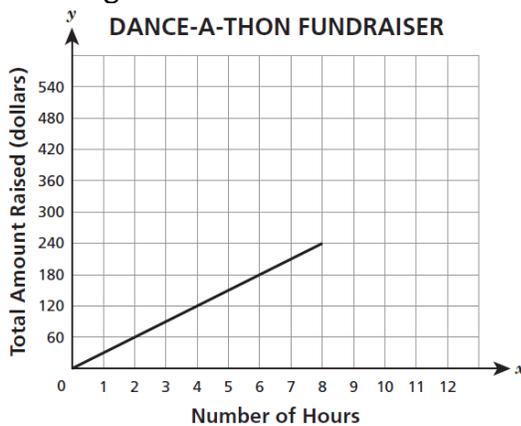
3. **8.EE.2.6**

   Which equations could represent the line shown below? Select all that apply.
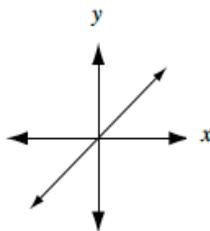
   ☐ A. $y = \frac{2}{3}x$

   ☐ B. $y = -\frac{3}{5}x$

   ☐ C. $y = 4x$

   ☐ D. $y = -3x + 2$

   ☐ E. $y = \frac{1}{2}x + 1$

4. **8.EE.3.7**

   Solve the equation
   $0.2(d - 6) = 0.3d + 5 - 3 + 0.1d$ for d.

5. **8.EE.3.8**

   Vincent wants to have balloons delivered to a friend. He can choose between two stores.

   - Store J charges $70.00 for delivery, plus $2.50 per balloon delivered.
   - Store K charges $60.00 for delivery, plus $5.00 per balloon delivered.

   The equations below represent the charges at the two stores, where C represents the total charge for delivering b balloons. Graph the two given equations on the coordinate plane. Estimate the solution using your graph.

   $$C = 2.5b + 70$$
   $$C = 5b + 60$$
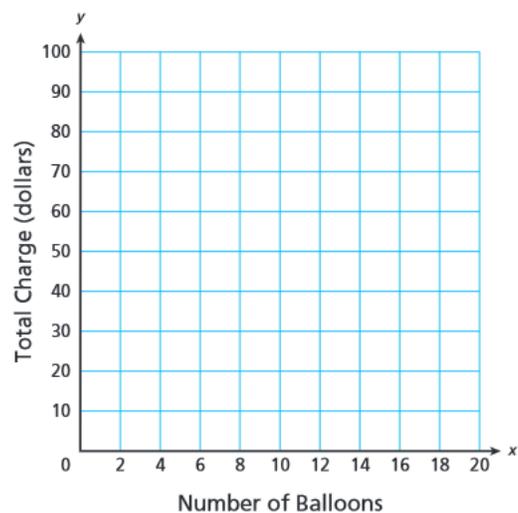
Day 2

1. **8.EE.1.4**
   The combined volume of all the tanks at an aquarium is 1.25×10^6 gallons. The aquarium plans to install a new dolphin tank with a volume of 250,000 gallons. What will be the total volume of all the tanks at the aquarium after the new dolphin tank is installed?
   - A. 1.5×10^5
   - B. 3.75×10^5
   - C. 1.5×10^6
   - D. 3.75×10^6

2. **8.EE.2.5**
   Students organized a 12-hour "dance-a-thon" as a fundraiser for the summer camp. The graph below represents the amount of money they raised during the first 8 hours. During the next 4 hours of the dance-a-thon, the students raised money at twice the hour rate of the first 8 hours. On the graph below, complete the graph for the next 4 hours to represent the total amount of money raised at the dance-a-thon. Use words and numbers to explain how you knew where to draw the graph.

   DANCE-A-THON FUNDRAISER
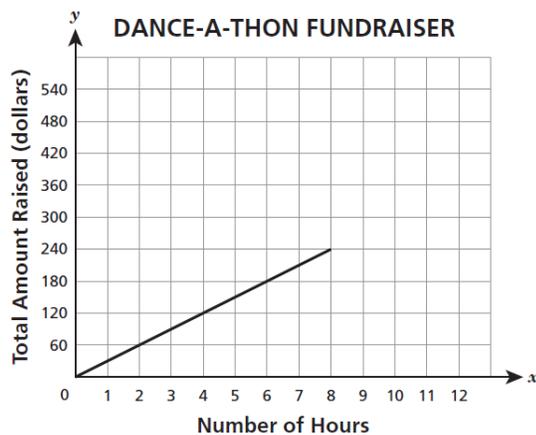
3. **8.EE.2.6**
   Joe graphed the line shown. Stan graphed the line $y = \frac{1}{3}x + 1$. Stan says both lines have the same y-intercept. Do you agree? Why or why not?
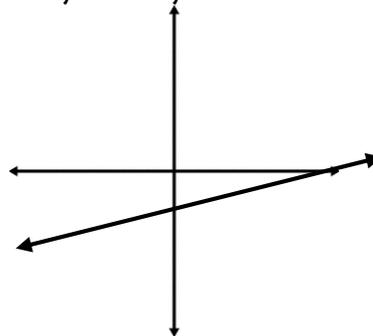
4. **8.EE.3.7**
   Solve the equation:
   $$0.4\left(2x + \frac{1}{2}\right) = 3[0.2x + (-2)] - 4$$

5. **8.EE.3.8**
   Vincent wants to have balloons delivered to a friend. He can choose between two stores.
   - Store J charges $70.00 for delivery, plus $2.50 per balloon delivered.
   - Store K charges $60.00 for delivery, plus $5.00 per balloon delivered.

   The equations below represent the charges at the two stores, where C represents the total charge for delivering b balloons. Solve the system of equations to algebraically verify the solution you graphed on Day 1, question 5.

   $$C = 2.5b + 70 \qquad C = 5b + 60$$

Day 3

1. **8.EE.1.4**

   What is $\dfrac{(5 \times 10^{-6})}{(4 \times 10^3)}$?

2. **8.EE.2.5**

   The table below was posted on the wall at Andy's Hardware to show the price of varying lengths of chain-link fencing. The price of the same fencing at Bargain Hardware can be determined by the equation $y = 2.50x$, where y is the price, in dollars, for x feet of fencing. Determine the unit price for fencing, in dollars per foot, for each store.

   PRICE OF FENCING

Length (feet)	Price
75	$168.75
125	$281.25
175	$393.75
225	$506.25

3. **8.EE.2.6**

   Write the equation of the line shown in the graph.
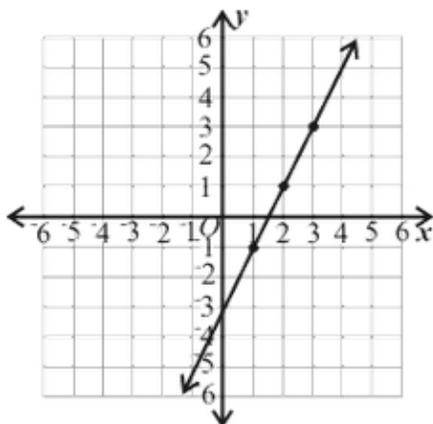
4. **8.EE.3.7**

   When 8 is added to the number that is produced by doubling the number x, the result is equal to 8 times the number that is 5 less than x. What is the value of x?

5. **8.EE.3.8**

   The population growth of two towns over a period of five years is represented by the system of equations below, both algebraically and graphically. Which ordered pair is the solution to the system of equations?

   $$\begin{cases} y = x + 6 \\ y = 2x + 2 \end{cases}$$
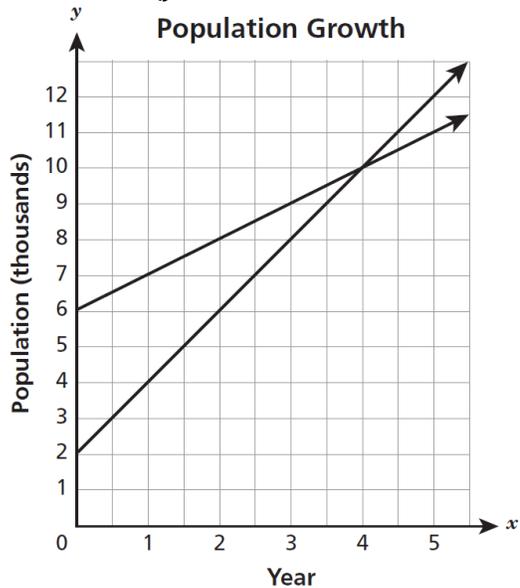
   A. (2, 6)
   B. (4, 10)
   C. (6, 2)
   D. (10, 4)

Day 4

1. **8.EE.1.4**

   Suppose that a scientist estimates that every square mile of the ocean contains an average of 4.6 x 10⁴ pieces of trash. The area of the Earth's surface that is covered by oceans is approximately 1.2 x 10⁸ square miles. Using the estimate, how many pieces of trash are in the Earth's oceans?

   A. 5.52 x 10¹²
   B. 1.2 x 10⁸
   C. 3.4 x 10⁴
   D. 2.6 x 10³

2. **8.EE.2.5**

   The table below was posted on the wall at Andy's Hardware to show the price of varying lengths of chain-link fencing. The price of the same fencing at Bargain Hardware can be determined by the equation $y = 2.50x$, where y is the price, in dollars, for x feet of fencing. On the grid below, graph for each store the relationship between the length of the fencing and the price to verify your answers to Day 3, question 2.

   PRICE OF FENCING

Length (feet)	Price
75	$168.75
125	$281.25
175	$393.75
225	$506.25

   Price of Fencing
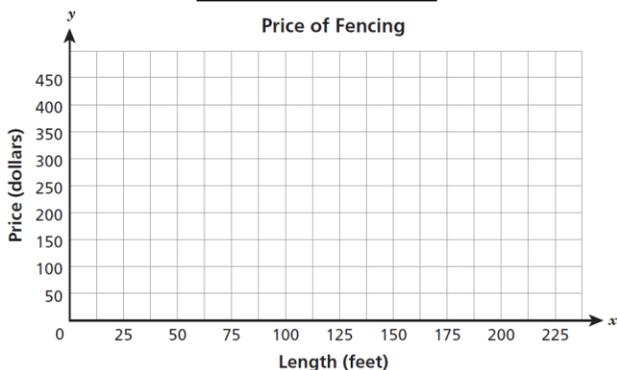
3. **8.EE.2.6**

   Which linear equation contains the points shown in the table?

x	y
1	-1
2	3
3	7

   A. $y = 5x + 4$
   B. $y = 4x + 5$
   C. $y = 5x - 4$
   D. $y = 4x - 5$

4. **8.EE.3.7**

   Place a check mark in each row to indicate the number of solutions for each equation below.

	No Solution	One Solution	Infinitely Many Solutions
$5x = 5x + 3$			
$5x + 6 = 6x + 5$			
$5x + 6 = 5x + 6$			
$2x + 4 = 4x + 2$			
$2x + 4 = 2x + 4$			
$2x = 2x + 4$			

5. **8.EE.3.8**

   What is the solution to the system of equations $\begin{cases} 3x + 4y = -2 \\ 2x - 4y = -8 \end{cases}$

   A. x = 2, y = -2
   B. x = 6, y = -5
   **C.** x = 4, y = 4
   D. x = -2, y = 1

Day 5

1. **8.EE.1.4**
   Write the expression shown below as one number in scientific notation.
   $$(4 \times 10^3)(6 \times 10^4 + 6 \times 10^4)$$

2. **8.EE.2.5**
   The graph of a proportional relationship is shown below.

   Plant Growth
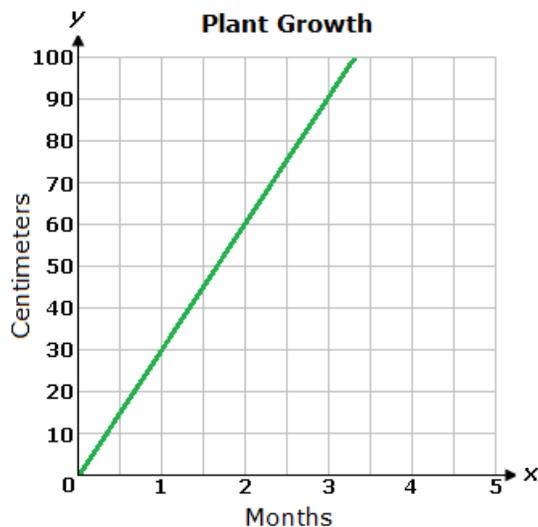
   What is the unit rate, in centimeters per month?

3. **8.EE.2.6**
   What is the y-intercept of the graph of the following linear equation?
   $$3x - 3 = y$$
   A. (0, 0)
   B. (1, 0)
   C. (0, -3)
   D. (-3, 0)

4. **8.EE.3.7**
   Leah is solving the equation
   $10c - 3(5c - 1) = 2(4c + 3) - 5c$. The result of each step of her solution is shown below.
   $$10c - 3(5c - 1) = 2(4c + 3) - 5c$$
   $$10c - 15c + 3 = 8c + 6 - 5c$$
   $$-5c + 3 = 3c + 6$$
   $$-2c + 3 = 6$$
   $$-2c = 3$$
 $$c = -1.5$$

   Circle the step in which Leah's first error occurred. Describe the error and correct her solution.

5. **8.EE.3.8**
   Graph and label the given system of equations $\begin{cases} y = \frac{1}{2}x + 2 \\ y = x - 1 \end{cases}$ on the coordinate grid shown below. What is the solution to the system of equations?
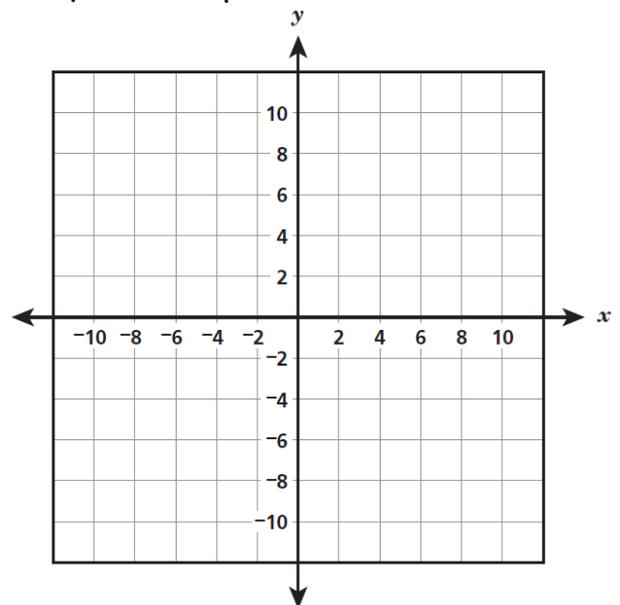
Week 1 – Grade 8

	Standard	Day 1	Day 2	Day 3	Day 4	Day 5
1	8.EE.1.3	D	300 times larger	D	2×10^6 because it has a greater power of 10.	5
2	8.EE.1.4	D	4.752×10^8	B	D	D
3	8.EE.2.5	B	D	A	Omar; Carla	C, D, E
4	8.EE.2.6	$y=2x$	The ratios of the height to the base of each triangle are proportional.	A	C	7 1/3
5	8.G.1.5	50^0	$x=40^0$ and $y=40^0$	D	C	C

Week 2 – Grade 8

		Day 1	Day 2	Day 3	Day 4	Day 5
1	8.F.1.1	C	C	T	(5, 7) or (5, 8)	A
2	8.F.1.2	B	Both Model S and Model T drain at faster rates than the existing tanks.	B	B	A
3	8.F.1.3	D	B	C	D	A
4	8.F.2.4	C=45d+25	A	B	D	A
5	8.F.2.5	C	B		A	Graph 3

Week 3 – Grade 8

		Day 1	Day 2	Day 3	Day 4	Day 5
1	8.SP.1.1	$40,000	2500	It shows the expected change in salary for each additional year of employment.	Yes, his expectation is reasonable…	(4, 12) and (17, 2) On a __ page document, he found ___ typos.
2	8.SP.1.2	A	A	Answers vary	There is a positive association between the # of hours of TV watched and # of Ds on report card.	C
3	8.SP.1.3	B	B	The 10 represents the increase in calories per gram of fat.	10 hr	Robin is traveling 30 mph.
4	8.SP.1.4	50	16/50 or 32%	10/25 or 40%		B
5		Positive association	B	It is the flat charge to hire the plumber regardless of the	25%	B

				number of hours worked.		

		Day 1	Day 2	Day 3	Day 4	Day 5
1	8.EE.3.7	A	x=-2	D	A	C
2	8.EE.3.8	D	C	C	D	B
3	8.G.3.9	C	678.24 in³	C	301.4 in³	D
4	8.NS.1.1	D	R, I, R, I, R	26	$0.\overline{45}$	A, B, F
5	8.NS.1.2	$\sqrt{3}, \sqrt{5}, \pi$	See # line	See # line	6 units	A, C, D

Week 5 – Grade 8

		Day 1	Day 2	Day 3	Day 4	Day 5
1	8.EE.1.1	B	B	D	A	B
2	8.EE.1.2	A	A	C	2/3	Answers vary
3	8.G.1.1	D	C	7 units	The perimeters of the figures will be the same because the figures are congruent.	60⁰
4	8.G.1.2	B	A	(3, 2)	B	A
5	8.G.1.3	C, E	(3, -2)	A	B	B

Week 6 – Grade 8

		Day 1	Day 2	Day 3	Day 4	Day 5
1	8.G.1.4	C	The angle measures of the image will be congruent because the resulting triangle is similar.	The perimeter of ΔA'B'C' will be 4 times the perimeter of ΔABC.	B	90⁰ clockwise rotation about the origin, dilation by factor of 2
2	8.G.1.5	75⁰	59⁰	61⁰	m∠1=106⁰ m∠2=74⁰	42⁰
3	8.G.2.6	Yes, they form a right triangle because $a^2+b^2=c^2$.	C	B	D	Answers vary
4	8.G.2.7	B	8 ft	12 ft	35 cm	18.58 cm
5	8.G.2.8	D	3.6 mi	C	33.7 units	$\sqrt{58}$ units

Week 7 – Grade 8

		Day 1	Day 2	Day 3	Day 4	Day 5
1	8.F.1.1	Answers vary (3,y) where y is an integer	8	B	Yes. For every input, x, there is only one output, y.	-9, -3, 3, 9
2	8.F.1.2	Any line w/ a slope of 2	Function 1	Giovanni's	Giovanni	They have the same flat fee.
3	8.F.1.3	D	No. Reasons vary	C	A, E	Yes… justifications vary.
4	8.F.2.4	$270	1700, 2240, 2780	18n+800	$36.18	A
5	8.F.2.5	Graph 1	Graph 2	During the last 15 minutes (30-45	They show times when Christine wasn't moving	4 mi

| | | | | | min), she had the highest speed. | (i.e. waiting in the car). | |

		Week 8 – Grade 8					
		Day 1	Day 2		Day 3	Day 4	Day 5
1	8.EE.1.1	B	D		27	A, C, D	D
2	8.EE.1.2	x = ½	$\frac{256}{361}$ $\frac{1}{64}$	125	B	Never	B, E, F
3	8.EE.1.3	A, D	A		$10^7, 10^{-3}, 10^{-1}, 10^2$	A, C	2×10^4
4	8.G.3.9	9.85 ft	B		12 cm	$40{,}000\pi$ cm³	Answers vary (Ex: r=2, h=9 or r=3, h=4)
5		4/25	C		I disagree unless x=2. x•x≠2x	B	11,488 cm³

		Week 9 – Grade 8				
		Day 1	Day 2	Day 3	Day 4	Day 5
1	8.EE.1.4	8×10^{11}	C	1.25×10^{-9}	A	4.8×10^8
2	8.EE.2.5	$30 per hour	See graph (last 4 hours should increase by $60/hr)	Andy's: $2.25/ft Bargain: $2.50/ft	Check graph	30 cm/month
3	8.EE.2.6	A, C	No. Joe's line has a negative y-intercept, but Stan's y-intercept is 1.	y=2x-3	D	C
4	8.EE.3.7	d=-16	x=-51	x=8	No, One, Infinite, One, Infinite, No	-2c+3=6; c=-3/8
5	8.EE.3.8	Check graph; (4, 80)	Check work; (4, 80)	B	D	(6, 5)