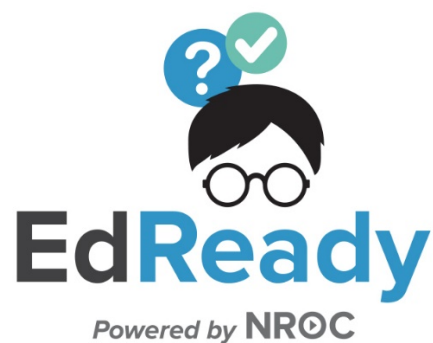




*Reinforced Instruction for Student Excellence
(RISE)*

*Test Preparation Guide
Math and English*



RISE Diagnostic and Placement Test

English

The RISE test is comprised of two English tiers. Each question is multiple choice. Each module is self paced and takes approximately 1 hour to complete.

Topics covered under English Tier I include:

- Introduction to College and Writing
- Identifying Main Ideas
- Discovering Implied Meaning
- Interpreting Bias
- Analysis through Definition
- Learning across Disciplines

Topics covered under English Tier II include:

- Exploring Comparative Elements
- Applied Critical Analysis
- Using sources in Critical Reading and Writing
- Informal Opinions through Casual Chains

RISE Diagnostic and Placement Test

Mathematics

The RISE test is comprised of three math tiers. A calculator will be provided by the testing center staff. Each question is multiple choice. Each module is self paced and takes approximately 1 hour to complete.

Topics covered under Math Tier I include:

- Operations with whole numbers and real numbers
- Relationships between fractions, mixed numbers, and decimals
- Conceptual application problems containing ratios, rates, proportions, and percentages
- Graphical and algebraic representations of lines
- Interpretations of basic graphs
- Applications using U.S. customary and metric units of measurement
- Geometry of all shapes

Topics covered under Math Tier II include:

- Concepts in Statistics
- Solving Equations and Inequalities
- Exponents, square roots, and order of operations
- Polynomial operations
- Graphing

Topics covered under Math Tier III include:

- Factoring / functions
- Systems of Equations / Inequalities
- Rational Expressions
- Quadratic Equations

Study Material and Practice Resources for RISE Testing

To Access the Ed Ready – RISE *practice* placement test, please visit our testing website at:

<https://sandhillplacement.edready.org/home>

Click “Log In” in the top right hand corner of the website.

Use your SCC student email to create an Ed Ready account.

Click “Log In” once your email and password have been created. *Please take note of your email and password you register with, and keep it in a secure location. Please bring it to your testing appointment. *

Once you log in, you will see the English Study Guide Practice titled “**NOT the Test**” and Math Study Guide Practice titled “**NOT the Test**”.

Click “Go to Goal” to begin the practice test.

**You will have access to this practice study material once you create your account prior to your testing appointment. **

For additional math help visit:

www.math.org

www.mathtv.com

<https://www.khanacademy.org/>

English Tier 1

Introduction to College Reading and Writing

1.

Read these sentences.

"It is important not to speculate about issues like these. Making decisions without having all the information can be a real problem."

What does "speculate" mean in this sentence?

- working to fix an issue
- thinking deeply about
- develop a quick solution
- having a theory without evidence

2.

Read this excerpt from a passage.

"Five thousand! That's about how many advertisements you are exposed to in one day if you live in a metropolitan area. Researchers' estimates of the actual number vary from three hundred to six thousand, but everyone knows that ads are everywhere. Advertising goes down the street with us; it's on trains, planes, and buses. It shouts at us at sporting events from the banners on display and the electronic scoreboards. Advertising takes the form of brand names and logos on our clothing and accessories. You can't even turn on the television or check out your favorite website without watching an advertisement. At every point, advertising shouts, whispers, or cajoles us to 'Look at me! Buy me!' But how exactly do advertisements do it? As it turns out, just a few formats characterize the majority of ads."

Who is the intended audience for this passage?

- college professors
- consumers
- scientists
- advertising agents

Identifying Main Ideas

1.

Which sentence contains a comma splice?

- Birds are the direct descendants of a type of small, feathered dinosaur, that means the dinosaurs are still alive!
- The last known Tasmanian tiger, nicknamed Benjamin, died in a zoo in 1936; the species was declared extinct after 50 years passed with no further sightings.
- Some scientists want to clone woolly mammoths, yet others worry that bringing an extinct species back from the dead could trigger an ecological disaster.
- To save the California condor, scientists trapped the surviving 27 birds and bred them in captivity, but the condor is still one of the rarest birds in the world.

2.

Read this paragraph.

"Who invented the hamburger? Many different cultures, towns, and restaurants have tried to 'steak' the claim of creating the first mouth-watering burger; but the truth is, it developed with small changes over time. Some historians think the dish is inspired by Genghis Khan and his hungry hoard of Mongolians. They took meat with them into battle, hidden under their saddles, and ate the flattened steaks afterward³/₄raw. When the Mongols invaded Moscow in the thirteenth century, the Russians adapted the idea, adding spices and onions. The dish eventually made its way from Russia to the port town of Hamburg, Germany, where it was adapted further. In the eighteenth century, Germans began asking for their steak 'Hamburg style,' which meant ground, seasoned meat, shaped into patties, and quickly grilled. The hamburger reached America in the nineteenth century when sailors and immigrants travelling from Germany brought the dish with them. In the 1920's, the burger finally met its mate: the bun. Many American restaurants began featuring it on their menus, each one claiming to be the 'home of the hamburger.' These small changes, made over centuries, contributed to one of the most popular foods in the world: the mighty hamburger."

Which of these **best** states the main idea?

- "These small changes, made over centuries, contributed to one of the most popular foods in the world: the mighty hamburger."
- "In the eighteenth century, Germans began asking for their steak 'Hamburg style,' which meant ground, seasoned meat, shaped into patties, and quickly grilled."
- "Some historians think the dish is inspired by Genghis Khan and his hungry hoard of Mongolians."
- "Many different cultures, towns, and restaurants have tried to 'steak' the claim of creating the first mouth-watering burger; but the truth is, it developed with small changes over time."

Discovering Implied Meaning

1.

Read this excerpt from a passage.

"Research has suggested that working more than fifteen hours a week during the school year can negatively affect your grades. However, the benefits of joining the workforce far outweigh any drawbacks. So, fill out those applications, but be mindful of your time and academic priorities so that you can find the right balance between your new job and school."

What is the author's point of view in the excerpt?

- third-person omniscient
- third-person limited
- first person
- second person

2.

Read the following passage:

I was skiing and I broke my leg. The guy came out of nowhere and knocked me down!

Which revision below most effectively uses transition words to create coherence?

- I broke my leg when I was skiing. What happened was this guy came out of nowhere and knocked me down!
- I was skiing and I broke my leg. Then the guy came out of nowhere and knocked me down!
- I was skiing and then I broke my leg. A guy came out of nowhere and that's when he knocked me down!
- I was skiing when a guy came out of nowhere and knocked me down, breaking my leg!

Interpreting Bias

1.

Which sentence contains correct parallel structure?

- Mari's paintings revealing her talent and will demonstrate her patience.
- Mari's paintings will reveal her talent and demonstrated her patience.
- Mari's paintings revealed her talent and demonstrated her patience.
- Mari's paintings reveals her talent and demonstrated her patience.

2.

The following sentence contains an introductory phrase:

After looking through her purse three times Carla realized she'd forgotten her earplugs at home and would have to listen to her boyfriend's band.

Which revision correctly punctuates the sentence?

- After looking through her purse three times, Carla realized she'd forgotten her earplugs at home and would have to listen to her boyfriend's band.
- After, looking through her purse three times Carla realized she'd forgotten her earplugs at home, and would have to listen to her boyfriend's band.
- After looking through her purse, three times Carla realized she'd forgotten her earplugs at home and would have to listen to her boyfriend's band.
- After looking through her purse three times Carla realized she'd forgotten her earplugs at home, and would have to listen to her boyfriend's band.

Analysis through Definition

1.

Read this excerpt from a passage.

"Groups such as the World Wildlife Fund, the Clinton Foundation, and Save the Elephants have been especially vocal in their protests against the illegal killing of elephants. In addition, many countries have demonstrated their disapproval of the ivory trade by crushing or burning ivory stockpiles and objects. *The Atlantic* magazine reported that in 2013, China crushed 6,000 tons of ivory. It added that 'over the next two years, Hong Kong will embark on the world's largest ivory burn, setting 28 tons of illegally harvested tusks aflame to signal a shift in its valuation of elephants."

How do you know this excerpt contains objective language?

- This excerpt contains words like "protests" and "disapproval," so it actually contains subjective language.
- It cites a reputable magazine and uses facts that can be verified.
- It lists a variety of well-known organizations that should be trusted.
- The information provided seems plausible, so it should be accurate.

2.

Read the following sentence.

“In factories, robots perform hazardous tasks; in homes, they vacuum the floor.”

What is the meaning of the word hazardous?

- reliable
- simple
- unsafe
- effortless

English Tier II

Exploring Comparative Elements

1.

Read the following passive sentence:

Pessimism is smart; by expecting the worst you are able to plan for trouble and avoid it.

Which revision below is an active sentence?

- When you planned for trouble and avoided it, you were proving that pessimism is smart.
- Pessimism is smart; expecting the worst lets you plan for trouble and avoid it.
- Smart pessimism expects the worst; you plan for trouble and avoid it.
- Pessimism is smart; you are able to plan for trouble and avoid it by expecting the worst.

2.

Read the following thesis for a compare and contrast essay:

For a colorful garden all summer long, plant annuals instead of perennials.

Which points of comparison below would most effectively support the thesis?

- Plant cost, maintenance requirements, fragrance
- Hardiness, drought tolerance, disease resistance
- Length of bloom season, flower size and showiness
- Life cycle, reseeding ability, number of varieties

Informed Opinions through Casual Chains

1.

Read this excerpt from a passage.

"The Post Office Department served Americans until 1970, when it was reorganized as the United States Postal Service. By federal law, the USPS must provide mail service to all Americans regardless of cost or location. For most of its 44-year history, the USPS turned a profit and was financially self-sufficient (Gattuso). Americans relied heavily on the USPS to send and receive invitations, birthday greetings, legal notices, bills, checks, and even love letters.

"However, this all changed in 2007. Starting in 2007, a dramatic drop in demand sent the USPS over a financial cliff. Because of the rise of digital communication, Americans were simply no longer mailing cards, letters, flyers, invitations, announcements, bills, statements, and solicitations as they had in the past. The volume of U.S. mail peaked in 2006 at 213 billion pieces, but in 2007 the numbers quickly began to drop. Since 2007, the total volume of all mail has dropped 25 percent and since 2001 the volume of first-class mail has declined by nearly one-third ('Pieces of Mail')."

What caused the rapid decline in the volume of first-class mail?

- In 2007, the economy went over a financial cliff and people stopped using the USPS.
- The price of sending a piece of mail became too expensive for most Americans.
- The ability to communicate digitally caused a change in people's behavior: they no longer had to send correspondence by mail.
- Americans decided that they relied too heavily on the USPS to send and receive correspondence, so they stopped using their services.

2.

Which sentence below uses punctuation correctly?

- Acoma Pueblo New Mexico was settled sometime around 1100, and is the oldest continuously occupied community in North America.
- The Army of Northern Virginia surrendered in April 1865, in Appomattox, Virginia, ending the Civil War.
- On August, 18, 1920, the Nineteenth Amendment, giving women the right to vote, was ratified.
- The official Declaration of Independence was actually signed on August 2 1776, not July 4th.

Applied Critical Analysis

1.

Read this excerpt from a passage.

"Unfortunately, saving elephants had a negative economic effect on some people. In 1999, in response to pressure from business interests that were losing money because of the ban on the ivory trade, CITES allowed limited trade in stockpiled tusks. Ivory that already had been harvested from elephants could once again be bought and sold.

"But disaster for the African elephant followed. Poachers, or illegal hunters, rushed to kill more elephants. Many people had foreseen that illegal trading of ivory would flourish again if any trading at all were allowed. Following the CITES decision, African elephants died in large numbers. A 2014 *New York Times* editorial reported that approximately 30,000 to 35,000 African elephants were killed each year. Only a complete ban of the ivory trade can save the African elephant from extinction."

What is one way that the author shows bias toward the topic?

- The author uses subjective language to describe the effects of the poaching.
- The number of elephants killed does not seem realistic, so it could be false.
- The author does not use a primary source as evidence.
- The author states that "saving elephants had a negative economic impact on some people," which is a cruel way of thinking about elephants.

2.

Read this excerpt from a passage.

"Unfortunately, saving elephants had a negative economic effect on some people. In 1999, in response to pressure from business interests that were losing money because of the ban on the ivory trade, CITES allowed limited trade in stockpiled tusks. Ivory that already had been harvested from elephants could once again be bought and sold.

"But disaster for the African elephant followed. Poachers, or illegal hunters, rushed to kill more elephants. Many people had foreseen that illegal trading of ivory would flourish again if any trading at all were allowed. Following the CITES decision, African elephants died in large numbers. A 2014 *New York Times* editorial reported that approximately 30,000 to 35,000 African elephants were killed each year. Only a complete ban of the ivory trade can save the African elephant from extinction."

Which of these sentences is an opinion disguised as a fact?

- "A 2014 *New York Times* editorial reported that approximately 30,000 to 35,000 African elephants were killed each year."
- "Ivory that already had been harvested from elephants could once again be bought and sold."
- "In 1999, in response to pressure from business interests that were losing money because of the ban on the ivory trade, CITES allowed limited trade in stockpiled tusks."
- "Only a complete ban of the ivory trade can save the African elephant from extinction."

Using Sources in Critical Reading and Writing

1.

Read these excerpts from two passages.

Legacy

"I must begin by telling you how much I miss my beautiful family. The voyage here was long and difficult. I could not wait until I was once again on dry land. I was nervous and went through inspections here. Many people were not allowed to go into New York City. I am healthy, though. Sofia, you will see, I will begin our future here in America. As planned, our neighbor's son-in-law, a fine young man, met me at the boat dock. I was so happy to hear him speak Italian! He took me to my lodgings, a small room in a cramped building. There are so many people in such a big city. I share the room with several other lodgers. We are all immigrants who are either working or looking for work. We all want to save money to bring our families over to America...With all my love, Angelo."

Ellis Island

"Though it is not unusual to hear stories about immigrants who were detained on Ellis Island, records show that the majority of immigrants who arrived in the United States were permitted entry in an expedient manner. Most arriving immigrants were there for only a short three to five hours. First, they had to submit to a quick medical exam. The doctors at Ellis Island were skilled at conducting "six-second physicals" during which they could diagnose various conditions with just a glance. After passing the medical exam, immigrants were subjected to a legal exam to ensure that they would be able to support themselves in the United States."

What is a common theme in these excerpts?

- The inspection process for people who immigrated to New York City.
- The love that ties family members together even over thousands of miles.
- A full description of rules and regulations regarding immigrants who entered America through Ellis Island.
- Lodging options for immigrants who came to America with little money.

2.

Read the following paragraph currently on the U.S. Department of Commerce National Ocean Service website:

When it comes to eating, the ocean provides much more than just seafood. Many of the foods and products found in your local grocery store contain ingredients from the ocean. For example, peanut butter and toothpaste both contain carrageenan. Carrageenan is a generic term for compounds extracted from species of red algae. Boiling the algae extracts the carrageenan, which in turn is used to make peanut butter more spreadable. Carrageenan also gives toothpaste its consistency and is used in other cosmetics, pharmaceuticals, and industrial products.

Which option below accurately paraphrases the paragraph without plagiarizing it?

- Most people don't realize the impact of marine life on their lives, especially when they live far away from the sea, according to the National Ocean Service (2017). All products contain compounds that come from sea animals, even ones that don't seem to have anything to do with seafood.
- The National Ocean Service website (2017) includes information on the importance of marine life to our everyday lives, such as a tidbit on the use of algae to improve the texture of peanut butter and toothpaste.
- A rundown on how the ocean gives us much more than food can be found on the National Ocean Service home page (2017). Carrageenan, a compound extracted from some kinds of red algae by boiling, is added to peanut butter to make it spreadable, and also to toothpaste to give it consistency. Carrageenan is also in beauty products, drugs, and industrial items.
- You might think you aren't interested in seafood, but the National Ocean Service (2017) is here to tell you that without red algae, we wouldn't be able to make a peanut butter sandwich or brush our teeth after eating it.

Math Tier I

Whole Numbers

1.

A factory that dyes clothing has 65,492 pounds of dye stored in a warehouse. Round this number to the nearest thousand.

- 66,400
- 65,500
- 66,000
- 65,000

2.

Ted's fitness tracker recorded 9,341 steps on Monday, 7,820 steps on Tuesday, and 8,011 steps on Wednesday. Estimate the total number of steps Ted took over those three days by first rounding each number to the nearest thousand.

- 24,000
- 25,100
- 25,172
- 25,000

3.

Tina's chihuahua had 6 puppies. She can sell each one for \$150. How much money would she make from selling all of the puppies?

- \$960
- \$900
- \$600
- \$25

4.

A pound of popcorn is popped for a class party. The popped corn is put into small popcorn boxes that each hold 120 popped kernels. There are 1,450 kernels in a pound of unpopped popcorn. If all the boxes are filled except for the last box, how many boxes are needed and how many popped kernels are in the last partially filled box?

- 12 boxes
- 130 boxes with 10 popped kernels in the last partially filled box
- 13 boxes, twelve of them filled and 10 popped kernels in the last box
- 12 boxes, eleven of them filled and 10 popped kernels in the last box

Real Numbers

1.

Nathan is building a toolshed with a rectangular floor. The area of a rectangle is given by the formula $l \cdot w$, where l represents the length, and w represents the width. The floor of the shed will have measurements of either $l = 9$ and $w = 7$ or $l = 8$ and $w = 8$. What is the area of the larger floor?

- 64
- 63
- 56
- 72

2.

Find $10.8 - 20.2 + 11 - (-38.5)$.

- 36.9
- 36.9
- 40.1
- 40.1

3.

Across a horizontal distance of 25 feet, a roller coaster has a steep drop. The height of the roller coaster at the bottom of the drop is -100 feet, compared to its height at the top of the drop. What is the average amount that the roller coaster's height changes over each horizontal foot?

- $-\frac{1}{4}$ ft
- 4 ft
- $\frac{1}{4}$ ft
- 4 ft

4.

Simplify: $|2 - 5| - (12 \div 4 - 1)^2$

- 7
- 13
- 19
- 1

Fractions, Decimals, and Mixed Numbers

1.

Simplify $\frac{36}{144}$.

- $\frac{1}{8}$
- $\frac{3}{12}$
- $\frac{2}{8}$
- $\frac{1}{4}$

2.

Sean has a garden that is $\frac{1}{2}$ acre. If he divides that into 5 equal sections to plant different vegetables, how large will each section of land be?

- $\frac{1}{10}$
- $2\frac{1}{2}$
- $\frac{2}{5}$
- $\frac{1}{3}$

3.

In seventh grade, Emile grew $3\frac{7}{10}$ cm, and in eighth grade he grew $4\frac{2}{5}$ cm. How much did his height increase during these two years?

The answer should be written as a proper mixed number and should be simplified, if possible.

- $7\frac{11}{10}$ cm
- $7\frac{9}{10}$ cm
- $7\frac{3}{5}$ cm
- $8\frac{1}{10}$ cm

4.

Yesterday Jacques had a fever of 100.8 degrees. Today it has gone up to 102.3 degrees. By how much did his fever go up?

- 203.1 degrees
- 202.1 degrees
- 2.5 degrees
- 1.5 degrees

Ratios, Rates, Proportions, and Percentages

1.

A machine can manufacture 24,000 plastic balls in 8 hours. Find the unit rate in balls per hour.

- $\frac{3,000 \text{ balls}}{1 \text{ hour}}$
- 1 : 3,000
- $\frac{24,000 \text{ balls}}{8 \text{ hours}}$
- $\frac{1 \text{ hour}}{3,000 \text{ balls}}$

2.

Wina drove 282 miles on 10 gallons of gas. At this same rate, how many miles could she drive on 12 gallons of gas?

- 338.4 miles
- 340.6 miles
- 336 miles
- 120 miles

3.

What fraction is equal to 35%?

- $\frac{35}{50}$
- $\frac{7}{20}$
- $\frac{1}{3}$
- $\frac{3}{4}$

4.

Your bill at a restaurant was for \$36. You want to leave a 15% tip. What would the tip amount be?

- \$2.40
- \$5.40
- \$6.20
- \$4.17

Measurement

1.

Roberto's toy car travels at 40 centimeters per second (cm/sec) at high speed and 15 cm/sec at low speed. If the car travels for 25 seconds at high speed and then 45 seconds at low speed, what distance would the car have traveled?

- 1050 cm
- 1200 cm
- 1425 cm
- 1675 cm

2.

How many kiloliters are in 32,500 centiliters?

- 0.325 kl
- 325 kl
- 3,250,000,000 kl
- 32.5 kl

3.

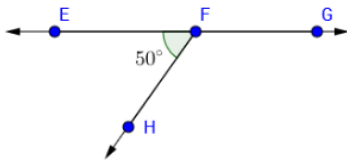
Convert 3,000 centimeters to kilometers.

- 0.3 kilometers
- 0.03 kilometers
- 300,000,000 kilometers
- 300,000 kilometers

Geometry

1.

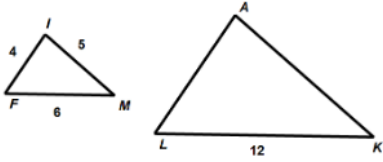
Find $m\angle HFG$.



- 130°
- 180°
- 40°
- 140°

2.

Triangles FIM and LAK below are similar, with $m\angle F = m\angle L$ and $m\angle M = m\angle K$.

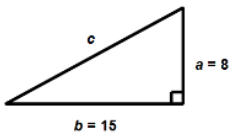


What is the length of \overline{LA} ?

- 18
- 2
- 10
- 8

3.

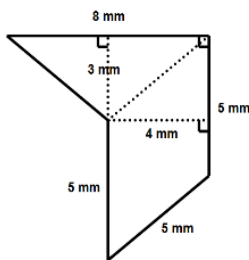
Find the length of the hypotenuse in the following right triangle.



- 289
- 17
- 12.7
- 23

4.

Find the area of the figure below, formed from a triangle and a parallelogram.



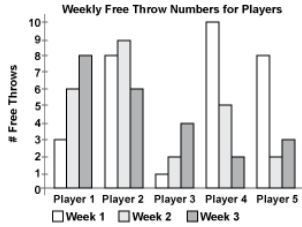
- 22 square millimeters
- 34 square millimeters
- 32 square millimeters
- 44 square millimeters

Math Tier II

Concepts in Statistics

1.

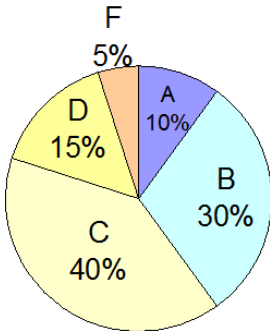
The graph below shows the number of free throws made by five players on a basketball team.



What was the total number of free throws made for Player 2?

- 24
- 23
- 17
- 8

2.



The circle graph shown above represents the distribution of the grades of 40 students in a certain geometry class. How many students received Ds or Fs?

- 5
- 8
- 15
- 20

3.

The following are water temperatures at various beaches in San Diego.

70°, 66°, 61°, 70°, 68°

What is the mode of the data set?

- 61°
- 66°
- 68°
- 70°

4.

Hal and Renee play the following game: A bag has 14 tiles in it, each with a letter from the phrase *the probability* on it. Hal and Renee take turns drawing a tile, recording the letter, and placing the tile back in the bag. Renee earns a point if she draws a vowel. Hal earns a point if he draws a consonant. They decide that the letter *y* can be a vowel or a consonant. Which statement best explains whether or not the game is fair?

- The game is fair because both Hal and Renee will get a point if the letter *y* is drawn.
- The game is not fair because the probability of Hal drawing a winning letter is less than the probability of Renee drawing a winning letter.
- The game is not fair because the probability of Hal drawing a winning letter is more than the probability of Renee drawing a winning letter.
- The game is fair because Hal and Renee have the same probability of drawing a winning letter.

Solving Equations and Inequities

1.

Which of the following algebraic steps will solve the equation $-6t = \frac{2}{3}$ and what is the solution?

- Divide both sides of the equation by $-\frac{1}{6}$ to get $t = -4$.
- Divide both sides of the equation by -6 to get $t = -4$.
- Divide both sides of the equation by -6 to get $t = -\frac{1}{9}$.
- Divide both sides of the equation by $-\frac{1}{6}$ to get $t = -\frac{1}{9}$.

2.

Solve: $\frac{1}{4}(x - 8) = 3$

- 7
- 20
- 5
- 44

3.

Alana and Petra go to a used book sale, where every book is the same price. Alana buys 5 books and Petra buys 4 books. They run into their friend Angus, who really loves to read, and discover that he has bought 19 books. Angus received a \$10 discount, but he still spent \$7.50 more than Alana and Petra combined. How much does one book cost?

- \$1.75
- \$2.50
- \$19.75
- \$0.25

4.

An important formula from chemistry is $PV = nRT$. Solve the formula for R .

- $R = \frac{nPV}{T}$
- $R = \frac{PV}{nT}$
- $R = \frac{TPV}{n}$
- $R = \frac{nT}{PV}$

Exponents and Polynomials

1.

Write the expression $\frac{-3}{x^{-4}}$ using only positive exponents.

- $\frac{3}{x^4}$
- $\frac{x^4}{3}$
- $-3x^4$
- $3x^4$

2.

Simplify: $\frac{-4x^8 \cdot 3x^7}{6(x^5)^2}$

- $-2x^{46}$
- $-2x^5$
- $-2x^8$
- $-6x^5$

3.

$(5^3)^2 \cdot (4^2)^2 \cdot (6^2)^3 =$

- $8^2 \cdot 6^2 \cdot 8^3$
- $15^2 \cdot 8^2 \cdot 12^3$
- $5^5 \cdot 4^4 \cdot 6^6$
- $5^6 \cdot 4^4 \cdot 6^6$

4.

Simplify: $3x^3 + 8x^2 - 2x^4 - 3x^2 + 5x^3 - x$

- $10x^4$
- $2x^4 + 5x^3 + 8x^2 + x$
- $10x$
- $-2x^4 + 8x^3 + 5x^2 - x$

Graphing

1.

The trinket store is open for 14 hours per day. They sell an average of 5 trinkets per hour. The back storeroom currently has 560 trinkets in it.

1) Write an equation that estimates the number of trinkets T that will be in the storeroom after H hours.

2) How many days will it take to run out of trinkets?

1) $H = 560 - 5T$

2) The store will run out of trinkets in 8 days.

1) $T = 560 - 5H$

2) The store will run out of trinkets in 8 days.

1) $H = 560 - 5T$

2) The store will run out of trinkets in 112 days.

1) $T = 560 - 5H$

2) The store will run out of trinkets in 112 days.

2.

Write the equation of the line that passes through $(-8, -4)$ and $(-6, -1)$ in slope-intercept form.

$y = \frac{3}{2}x - 10$

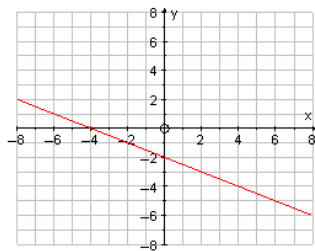
$y = \frac{3}{2}x + 8$

$y = -\frac{3}{2}x - 10$

$y = \frac{2}{3}x + 3$

3.

What is the slope of a line parallel to the line below?



-2

$-\frac{1}{2}$

$\frac{1}{2}$

2

4.

The ordered pair $(5, -3)$ is a solution to which of the following inequalities?

- $y \geq -2x + 8$
- $4y + 2x \leq -1$
- $y - 2x > 5$
- $-2y < 3x - 9$

Math Tier III

Factoring

1.

Factor out the GCF of the three terms, then complete the factorization of $3x^3 + 9x^2 - 30x$

- $3x(x + 2)(x - 5)$
- $3x(x - 2)(x + 5)$
- $3x(x^2 + 3x - 10)$
- $3x^2(x + 3) - 30x$

2.

Factor: $6x^2 - 7x + 2$

- $(2x + 1)(3x - 2)$
- $(3x - 2)(4x - 2)$
- $2x - 1 + 3x - 2$
- $(2x - 1)(3x - 2)$

3.

Factor: $49x^2 - 121$

- $(7x - 11)(7x + 11)$
 - $(7x + 11)^2$
 - $(7x - 11)^2$
 - $(49x - 1)(x + 121)$
-

4.

Solve $x^2 + 3x - 18 = 0$.

- $x = -6$ or $x = 3$
- $x = 9$ or $x = -2$
- $x = 6$ or $x = -3$
- $x = -9$ or $x = 2$

Systems of Equations and Inequalities

1.

Is $(-2, 2)$ a solution to the system $y - x = -4$ and $-3x - 2y = -10$?

- No, because $(-2, 2)$ is a solution to only one equation.
- No, because $(-2, 2)$ is a solution to neither equation.
- Yes, because $(-2, 2)$ is a solution to both equations.
- Yes, because $(-2, 2)$ is a solution to one equation.

2.

What is the solution to this system of equations?

$$y = x + 5$$
$$2x + 2y = 18$$

- $(-2, 3)$
- $(7, 12)$
- $(2, 7)$
- $(7, 2)$

3.

Use the method of elimination to solve the system of equations.

$$3x - 2y = 12$$
$$-2x + 5y = -19$$

- The solution is $(6, 3)$.
- The solution is $(2, -3)$.
- The solution is $(-2, -9)$.
- There are infinitely many solutions.

Rational Expressions

1.

Divide. State the quotient in simplest form.

$$\frac{4x^5}{x^2-3x-4} \div \frac{12x^2}{3x+3}, \quad x \neq -1, 4$$

- $\frac{x-4}{x^3}$
- $-\frac{4}{x^2}$
- $\frac{x^3}{x-4}$
- $-\frac{x^2}{4}$

2.

Simplify. State the result in simplest form.

$$\frac{2y^2}{3y} + \frac{1}{2x} - \frac{6}{5}$$

- $\frac{20xy+15-36x}{30x}$
- $\frac{20xy^2+15y-36xy}{30xy}$
- $\frac{2y^2-5}{30xy}$
- $\frac{3(6xy+5-12x)}{10x}$

3.

Solve the equation: $\frac{x-5}{8} = \frac{x}{16}$

- $x = -5$
- $x = -10$
- $x = 5$
- $x = 10$

4.

The number of eggs Mia can sell varies directly with the number of chickens she owns. The more hens she owns, the more eggs she can sell. If she has 38 eggs each week when she owns 6 chickens, then how many eggs will she get if she has 15 chickens?

- 15 eggs
- 95 eggs
- 90 eggs
- 480 eggs

Radical Expressions and Quadratic Equations

1.

Simplify: $\sqrt{80x^4y^3}$

- $4x^2y\sqrt{5y}$
- $4x^2y\sqrt{5}$
- $4x^2|y|\sqrt{y}$
- $4x^2|y|\sqrt{5y}$

2.

Simplify: $\sqrt[4]{8x^8y^{19}}$

- $x^2y^4\sqrt[4]{8y^3}$
- $2x^2\sqrt[4]{y^{19}}$
- $2x^2y^4\sqrt[4]{8y^3}$
- $x^2\sqrt[4]{8y^{19}}$

3.

Rationalize the denominator and simplify: $\frac{2+\sqrt{6}}{\sqrt{3}}$

- $\frac{\sqrt{6}+3\sqrt{2}}{3}$
- $\frac{2\sqrt{3}+\sqrt{6}}{3}$
- $\frac{2\sqrt{3}+3\sqrt{2}}{3}$
- $\frac{2+3\sqrt{2}}{3}$

4.

Solve. $13 - \sqrt{4 - x} = 7$

- 32
- 36
- 4
- 40

Functions

1.

State the domain and range of the following function:

$\{(4, 7), (0, 3), (2, 3), (1, 6), (3, -2), (-1, 7)\}$

- Domain: $\{-2, 3, 6, 7\}$
Range: $\{-1, 0, 1, 2, 3, 4\}$
 - Domain: $\{-2, -1, 0, 1, 2, 3, 4, 6, 7\}$
Range: $\{-2, -1, 0, 1, 2, 3, 4, 6, 7\}$
 - Domain: $\{-1, 0, 1, 2, 3, 4\}$
Range: $\{-2, 3, 6, 7\}$
 - Domain: $\{-2, -1, 0, 1, 2\}$
Range: $\{3, 4, 6, 7\}$
-

2.

$$f(x) = -5x^2 + 4x - 9$$

$$g(x) = 8x^2 - 3x - 4$$

Find $(f + g)(x)$.

- $3x^2 + x - 13$
- $3x^3 + x^2 - 13x$
- $3x^4 + x^2 - 13$
- $-3x^2 + x - 13$

Congratulations!

You have completed the RISE placement practice test. The next step is to schedule a testing appointment by emailing testing@sandhills.edu