



engage^{ny}

Our Students. Their Moment.

**New York State Testing Program
Grade 7 Common Core
Mathematics Test**

Released Questions

July 2015



1

Yesterday, the temperature at noon was 11.4°F . By midnight, the temperature had decreased by 15.7 degrees. What was the temperature at midnight?

- A** -4.3°F
- B** -11.4°F
- C** -15.7°F
- D** -27.1°F

Key:

Primary CCLS: 7.NS.1.d

Apply properties of operations as strategies to add and subtract rational numbers.

Secondary CCLS: 7.NS.1.b

Percentage of Students Statewide Who Answered Correctly: 84%

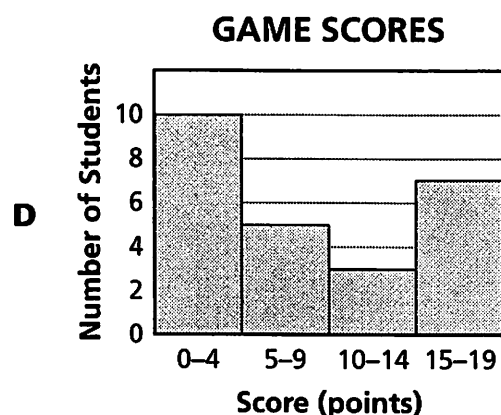
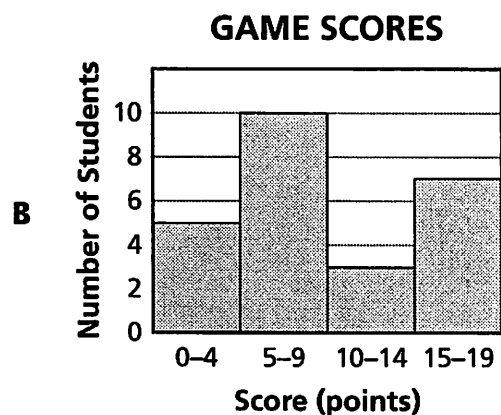
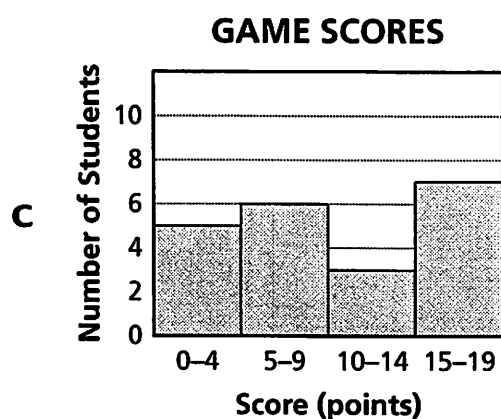
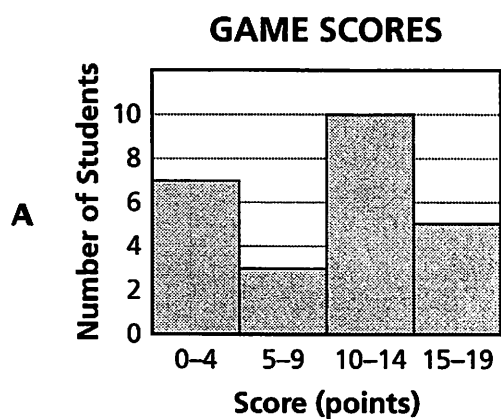
4

Jared surveyed the students in his class to determine how they scored in a game. He displayed his results in the table shown below.

GAME SCORES

Score (points)	Number of Students
0 to 4	5
5 to 9	10
10 to 14	3
15 to 19	7

Which histogram represents the data in the table?



Key:

Primary CCLS: 6.SP,4

Display numerical data in plots on a number line, including dot plots, histograms, and box plots.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 96%

5

Altitude above sea level is given in positive values and below sea level is given in negative values. Which situation describes a hiker in Death Valley stopping at an altitude of 0 feet?

- A** The hiker starts at -10 feet then increases altitude by 10 feet.
- B** The hiker starts at -10 feet then decreases altitude by 10 feet.
- C** The hiker starts at 10 feet then increases altitude by 10 feet.
- D** The hiker starts at 0 feet then decreases altitude by 10 feet.

Key:

Primary CCLS: 7.NS,1,a

Describe situations in which opposite quantities combine to make 0.

For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 73%

6

A cereal company puts a colored ring in each box of cereal. There are 6 different ring colors. The colors of the rings in each of 50 cereal boxes are shown in the table below.

RING COLORS IN CEREAL BOXES

Color	Number of Rings
Red	7
Blue	15
Green	8
Purple	10
Yellow	5
Orange	5

Based on the data, what is the probability that the next cereal box will contain a blue or a yellow ring?

- A $\frac{1}{6}$
- B $\frac{2}{5}$
- C $\frac{3}{5}$
- D $\frac{2}{3}$

Key: B

Primary CCLS: 7.SP.7,b

Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.

For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 59%

9

The three steps shown below were used to find an expression equivalent

to $\frac{2}{5}(15x - 30y) + 10x$.

Step 1: $\underline{\quad?}$

Step 2: $16x - 12y$

Step 3: $4(4x - 3y)$

Which expression could be used as Step 1?

A $\frac{2}{5}(25x - 30y)$

B $6x - 12y + 10x$

C $6x - 30y + 10x$

D $15(x - 2y) + 10x$

Key:

Primary CCLS: 7.EE.1

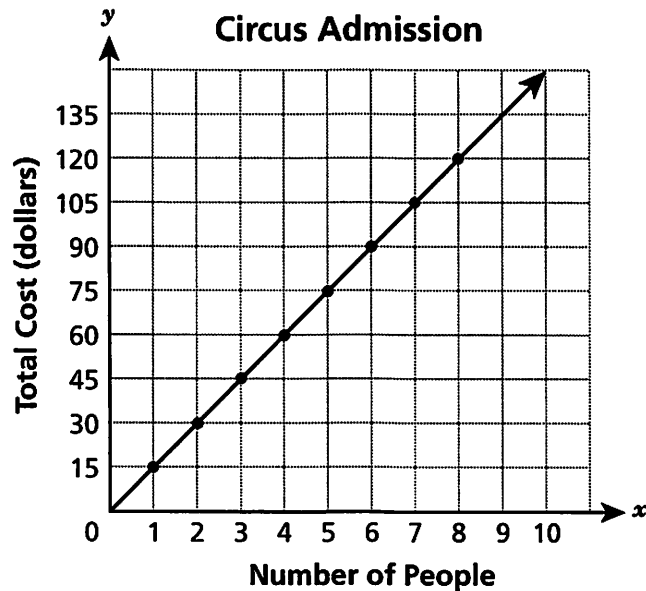
Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 46%

10

The graph below shows the relationship between the number of people in a group and the total cost of admission tickets for a circus.



What point on the graph represents the unit rate?

- A (0, 0)
- B (1, 15)
- C (15, 1)
- D (8, 120)

Key:

Primary CCLS: 7.RP.2.d

Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 73%

11

Evaluate.

$$\left(-\frac{7}{10} + 0.15\right) \div (-0.125)$$

- A -6.8
- B -4.4
- C 4.4
- D 6.8

Key:**Primary CCLS: 7.NS,3**

Solve real-world and mathematical problems involving the four operations with rational numbers.

Secondary CCLS: None**Percentage of Students Statewide Who Answered Correctly: 39%****17**

A recipe requires $\frac{1}{3}$ cup of milk for each $\frac{1}{4}$ cup of water. How many cups of water are needed for each cup of milk?

- A $\frac{1}{12}$
- B $\frac{3}{4}$
- C $\frac{11}{12}$
- D $1\frac{1}{3}$

Key:**Primary CCLS: 7.RP,1**

Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.

For example, if a person walks $\frac{1}{2}$ mile in each $\frac{1}{4}$ hour, compute the unit rate as the complex fraction $\frac{1}{2} / \frac{1}{4}$ miles per hour, equivalently 2 miles per hour.**Secondary CCLS: None****Percentage of Students Statewide Who Answered Correctly: 48%**

18

During a sale, a store offered a 40% discount on a particular camera that was originally priced at \$450. After the sale, the discounted price of the camera was increased by 40%. What was the price of the camera after this increase?

- A \$252
- B \$360
- C \$378
- D \$450

Key:**Primary CCLS: 7.RP,3**

Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.

Secondary CCLS: None**Percentage of Students Statewide Who Answered Correctly: 31%****21**

What is the product of $\left(-\frac{1}{4}\right) \times \left(-\frac{3}{7}\right)$?

- A $-\frac{7}{12}$
- B $-\frac{3}{28}$
- C $\frac{3}{28}$
- D $\frac{7}{12}$

Key:**Primary CCLS: 7.NS,2,a**

Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.

Secondary CCLS: None**Percentage of Students Statewide Who Answered Correctly: 68%**

24What is the decimal equivalent of $\frac{7}{8}$?

- A 0.780
- B 0.870
- C 0.875
- D 0.885

Key:**Primary CCLS: 7.NS,2,d**

Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.

Secondary CCLS: None**Percentage of Students Statewide Who Answered Correctly: 56%****26**What is the value of $\left(-\frac{1}{4} - \frac{1}{2}\right) \div \left(-\frac{4}{7}\right)$?

- A $-1\frac{5}{16}$
- B $-\frac{3}{7}$
- C $\frac{3}{7}$
- D $1\frac{5}{16}$

Key:**Primary CCLS: 7.NS,3**

Solve real-world and mathematical problems involving the four operations with rational numbers.

Secondary CCLS: None**Percentage of Students Statewide Who Answered Correctly: 39%**

23

Gary buys a $3\frac{1}{2}$ -pound bag of cat food every 3 weeks. Gary feeds his cat the same amount of food each day. Which expression can Gary use to determine the number of pounds of cat food his cat eats each year? (1 year = 52 weeks)

A $\frac{7}{2} \times \frac{52}{3}$

B $\frac{7}{2} \times \frac{3}{52}$

C $3\left(\frac{1}{2} \times \frac{3}{52}\right)$

D $3\left(\frac{1}{2} \times \frac{52}{3}\right)$

Key:

Primary CCLS: 7.RP.1

Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.

For example, if a person walks $\frac{1}{2}$ mile in each $\frac{1}{4}$ hour, compute the unit rate as the complex fraction $\frac{1}{2} / \frac{1}{4}$ miles per hour, equivalently 2 miles per hour.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 38%

28

The school bus Evie rides is scheduled to arrive at her stop at 8:20 a.m. each day. The table below shows the actual arrival times of the bus for several days that were randomly selected over the past few months.

BUS ARRIVAL TIMES (a.m.)

8:21	8:21	8:19	8:20	8:23
8:22	8:20	8:18	8:20	8:18
8:21	8:20	8:19	8:17	8:25
8:20	8:20	8:18	8:19	8:24

Based on these data, what is the probability that the bus will arrive at Evie's stop before 8:20 a.m. tomorrow?

- A $\frac{3}{10}$
- B $\frac{1}{3}$
- C $\frac{7}{20}$
- D $\frac{13}{20}$

Key:**Primary CCLS: 7.SP.6**

Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.

Secondary CCLS: None**Percentage of Students Statewide Who Answered Correctly: 54%**

29

What is the radius, in centimeters, of a circle that has a circumference of 16π centimeters?

- A 8
- B 16
- C 32
- D 64

calculators allowed

Key:

Primary CCLS: 7.G,4

Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 69%

33

Each sales associate at an electronics store has a choice of the two salary options shown below.

- \$115 per week plus 9.5% commission on the associate's total sales
- \$450 per week with no commission

The average of the total sales amount for each associate last year was \$125,000. Based on this average, what is the difference between the two salary options each year?
(52 weeks = 1 year)

- A \$4,262.11
- B \$5,545.00
- C \$10,956.90
- D \$11,525.00

calculators allowed

Key:

Primary CCLS: 7.RP,3

Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 40%

36

Travis, Jessica, and Robin are collecting donations for the school band. Travis wants to collect 20% more than Jessica, and Robin wants to collect 35% more than Travis. If the students meet their goals and Travis collects \$43, how much money did they collect in all?

- A \$106.78
- B \$128.60
- C \$136.88
- D \$144.99

calculators allowed

Key:

Primary CCLS: 7.NS,3

Solve real-world and mathematical problems involving the four operations with rational numbers.

Secondary CCLS: 7.RP,3

Percentage of Students Statewide Who Answered Correctly: 49%

37

The mean radius of Earth is 6,371.0 kilometers and the mean radius of Earth's Moon is 1,737.5 kilometers. What is the approximate difference in the mean circumferences, in kilometers, of Earth and Earth's Moon? Round your answer to the nearest tenth of a kilometer.

- A 40,030.2
- B 29,113.1
- C 14,556.6
- D 10,917.0

calculators allowed

Key:

Primary CCLS: 7.G,4

Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 40%

38

A dealer paid \$10,000 for a boat at an auction. At the dealership, a salesperson sold the boat for 30% more than the auction price. The salesperson received a commission of 25% of the difference between the auction price and the dealership price. What was the salesperson's commission?

- A \$750
- B \$1,750
- C \$3,250
- D \$5,500

calculators allowed

Key:

Primary CCLS: 7.RP.3

Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 40%

39

Which expression represents a factorization of $32m + 56mp$?

- A $8(4m + 7p)$
- B $8(4 + 7)mp$
- C $8p(4 + 7m)$
- D $8m(4 + 7p)$

calculators allowed

Key:

Primary CCLS: 7.EE.1

Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 54%

40

Amber determined that the expression $\frac{-\frac{1}{2}}{-\frac{41}{15}}$ is equivalent to $\frac{15}{82}$. Which statement describes the process Amber could have used?

- A She divided $-\frac{1}{2}$ by -15 and then divided the result by 41 .
- B She multiplied $-\frac{1}{2}$ by -15 and then divided the result by 41 .
- C She divided $-\frac{1}{2}$ by -15 and then multiplied the result by 41 .
- D She multiplied $-\frac{1}{2}$ by -15 and then multiplied the result by 41 .

calculators allowed

Key:

Primary CCLS: 7.NS,3

Solve real-world and mathematical problems involving the four operations with rational numbers.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 49%

41

Ben earns \$9 per hour and \$6 for each delivery he makes. He wants to earn more than \$155 in an 8-hour workday. What is the least number of deliveries he must make to reach his goal?

- A 11
- B 12
- C 13
- D 14

calculators allowed

Key:

Primary CCLS: 7.EE,4,b

Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p , q , and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.

For example: As a salesperson, you are paid \$50 per week plus \$3 per sale. This week you want your pay to be at least \$100. Write an inequality for the number of sales you need to make, and describe the solutions.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 55%

45

Malika and Adrian prepared containers of potato salad at a deli. Each container was supposed to have a mass of one pound. The manager selected a random sample of containers prepared by each employee to check the mass of each container. The results are shown in the table below.

MASS OF EACH CONTAINER

Malika's Containers (pounds)	Adrian's Containers (pounds)
1.10	1.30
1.08	1.21
1.05	0.79
0.95	0.90
0.98	0.88

Which inference is best supported by these data?

- A** Malika will produce more containers with a mass of exactly one pound than Adrian will.
- B** Adrian will produce more containers with a mass of exactly one pound than Malika will.
- C** Most of Malika's containers will have a mass closer to one pound than most of Adrian's containers.
- D** Most of Adrian's containers will have a mass closer to one pound than most of Malika's containers.

calculators allowed

Key:

Primary CCLS: 7.SP.4

Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.

For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 65%

46

Which expression is equivalent to $8c + 6 - 3c - 2$?

- A** $5c + 4$
- B** $5c + 8$
- C** $11c + 4$
- D** $11c + 8$

calculators allowed

Key:

Primary CCLS: 7.EE.1

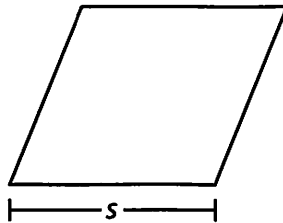
Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 67%

47

A rhombus with side length s is shown below.



The perimeter, P , of a rhombus is proportional to the length of each side, s . Which equation represents this relationship?

- A** $P = 4s$
- B** $s = 4P$
- C** $P = 4 + s$
- D** $s = 4 + P$

calculators allowed

Key:

Primary CCLS: 7.RP,2,c

Represent proportional relationships by equations.

For example, if total cost t is proportional to the number n of items purchased at a constant price p , the relationship between the total cost and the number of items can be expressed as $t = pn$.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 72%

48

Sara is playing a board game. The probability that Sara will score a point on her next turn is $\frac{1}{3}$. Which statement describes the probability that Sara will score a point on her next turn?

- A** likely
- B** certain
- C** unlikely
- D** impossible

calculators allowed

Key:

Primary CCLS: 7.SP,5

Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around $\frac{1}{2}$ indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 61%

53

Salid bought 35 feet of window trim at a hardware store. The trim cost \$1.75 per foot, including sales tax. If Salid paid with a \$100.00 bill, how much change should he have received?

- A** \$20.00
- B** \$38.75
- C** \$61.25
- D** \$80.00

calculators allowed

Key:

Primary CCLS: 7.EE,3

Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.

For example: If a woman making \$25 an hour gets a 10% raise, she will make an additional $\frac{1}{10}$ of her salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar $9\frac{3}{4}$ inches long in the center of a door that is $27\frac{1}{2}$ inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 72%

54

A pile of newspapers in Ms. McGrath's art class was $17\frac{3}{4}$ inches high. Each consecutive week, for the next 5 weeks, the height of the pile of newspapers increased by $8\frac{7}{12}$ inches. What was the height, in inches, of the pile after 3 weeks?

A $25\frac{3}{4}$

B $26\frac{1}{4}$

C $42\frac{1}{4}$

D $43\frac{1}{2}$

calculators allowed

Key:

Primary CCLS: 7.NS,3

Solve real-world and mathematical problems involving the four operations with rational numbers.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 32%

57

Harper has \$15.00 to spend at the grocery store. She is going to buy bags of fruit that cost \$4.75 each and one box of crackers that costs \$3.50.

Write and solve an inequality that models this situation and could be used to determine the maximum number of bags of fruit, b , Harper can buy.

Show your work.

Answer _____ bags of fruit

calculators allowed

59

A convenience store sells two brands of orange juice. Brand A contains 8 fluid ounces and costs \$1.28. Brand B contains 12 fluid ounces and costs \$1.68.

What is the difference in cost, in dollars, per fluid ounce between the two brands of juice?

Show your work.

Answer \$ _____ per fluid ounce

calculators allowed

Primary CCLS: 7.RP.2,b

Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.

Secondary CCLS: 7.RP.1

Statewide Average Points Earned: 1.09 out of 2

60

Members of a baseball team raised \$967.50 to go to a tournament. They rented a bus for \$450.00 and budgeted \$28.75 per player for meals. They will spend all the money they raised.

Write and solve an equation that models this situation and could be used to determine the number of players, p , the team could bring to the tournament.

Show your work.

Answer _____ players

calculators allowed

61

Last week Rachel power walked $2\frac{3}{5}$ miles per day on each of the 7 days. During the same week, she also jogged $5\frac{3}{4}$ miles per day on 4 days. What was the total number of miles Rachel power walked and jogged last week?

Show your work.

Answer _____ miles

calculators allowed

Primary CCLS: 7.NS.3

Solve real-world and mathematical problems involving the four operations with rational numbers.

Secondary CCLS: None

Statewide Average Points Earned: 1.08 out of 2

62

The table below shows the prices of different numbers of cards on a web site.

COST OF CARDS

Number of Cards	Price (dollars)
20	13
40	26
60	39
100	65

For each order, the web site applies a 7.7% sales tax to the price of the cards, plus a one-time mailing fee of \$5.95. Based on the information in the table, what will be the total cost for an order for 280 cards?

Show your work.

Answer \$ _____

calculators allowed

Primary CCLS: 7.RP.2,b

Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.

Secondary CCLS: 7.RP.3

Statewide Average Points Earned: 1.20 out of 3

65

A scientist uses a submarine to study ocean life.

- She begins at sea level, which is at an elevation of 0 feet.
- She travels straight down for 90 seconds at a speed of 3.5 feet per second.
- She then travels directly up for 30 seconds at a speed of 2.2 feet per second.

After this 120-second period, how much time, in seconds, will it take for the scientist to travel back to sea level at the submarine's maximum speed of 4.8 feet per second? Round your answer to the nearest tenth of a second.

Show your work.

Answer _____ seconds

calculators allowed

59

A convenience store sells two brands of orange juice. Brand A contains 8 fluid ounces and costs \$1.28. Brand B contains 12 fluid ounces and costs \$1.68.

What is the difference in cost, in dollars, per fluid ounce between the two brands of juice?

Show your work.

Answer \$ _____ per fluid ounce

calculators allowed

Primary CCLS: 7.RP.2,b

Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.

Secondary CCLS: 7.RP,1

Statewide Average Points Earned: 1.09 out of 2

60

Members of a baseball team raised \$967.50 to go to a tournament. They rented a bus for \$450.00 and budgeted \$28.75 per player for meals. They will spend all the money they raised.

Write and solve an equation that models this situation and could be used to determine the number of players, p , the team could bring to the tournament.

Show your work.

Answer _____ players

calculators allowed

61

Last week Rachel power walked $2\frac{3}{5}$ miles per day on each of the 7 days. During the same week, she also jogged $5\frac{3}{4}$ miles per day on 4 days. What was the total number of miles Rachel power walked and jogged last week?

Show your work.

Answer _____ miles

calculators allowed

Primary CCLS: 7.NS.3

Solve real-world and mathematical problems involving the four operations with rational numbers.

Secondary CCLS: None

Statewide Average Points Earned: 1.08 out of 2

62

The table below shows the prices of different numbers of cards on a web site.

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Show your work.

Answer \$ _____

calculators allowed

Primary CCLS: 7.RP,2,b

Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.

Secondary CCLS: 7.RP,3

Statewide Average Points Earned: 1.20 out of 3

65

A scientist uses a submarine to study ocean life.

- She begins at sea level, which is at an elevation of 0 feet.
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- She then travels directly up for 30 seconds at a speed of 2.2 feet per second.

After this 120-second period, how much time, in seconds, will it take for the scientist to travel back to sea level at the submarine's maximum speed of 4.8 feet per second? Round your answer to the nearest tenth of a second.

Show your work.

Answer _____ seconds

calculators allowed

59

A convenience store sells two brands of orange juice. Brand A contains 8 fluid ounces and costs \$1.28. Brand B contains 12 fluid ounces and costs \$1.68.

What is the difference in cost, in dollars, per fluid ounce between the two brands of juice?

Show your work.

Answer \$ _____ per fluid ounce

calculators allowed

Primary CCLS: 7.RP,2,b

Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.

Secondary CCLS: 7.RP,1

Statewide Average Points Earned: 1.09 out of 2

59

A convenience store sells two brands of orange juice. Brand A contains 8 fluid ounces and costs \$1.28. Brand B contains 12 fluid ounces and costs \$1.68.

What is the difference in cost, in dollars, per fluid ounce between the two brands of juice?

Show your work.

<u>Brand A</u>	<u>Brand B</u>
$\frac{1.28}{8}$	$\frac{1.68}{12}$
0.16 per fl. oz.	0.14 per fl. oz.

$$\begin{array}{r} 0.16 \\ -0.14 \\ \hline 0.02 \end{array}$$

Answer \$ 0.02 per fluid ounce

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts and procedures embodied in the task. The cost per ounce is calculated for each brand by setting up fractions, and Brand B is subtracted from Brand A to find a correct difference (0.02).

60

Members of a baseball team raised \$967.50 to go to a tournament. They rented a bus for \$450.00 and budgeted \$28.75 per player for meals. They will spend all the money they raised.

Write and solve an equation that models this situation and could be used to determine the number of players, p , the team could bring to the tournament.

Show your work.

Answer _____ players

calculators allowed

Primary CCLS: 7.EE.4.a

Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p , q , and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.

For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?

Secondary CCLS: None

Statewide Average Points Earned: 1.23 out of 2

61

Last week Rachel power walked $2\frac{3}{5}$ miles per day on each of the 7 days. During the same week, she also jogged $5\frac{3}{4}$ miles per day on 4 days. What was the total number of miles Rachel power walked and jogged last week?

Show your work.

Answer _____ miles

calculators allowed

Primary CCLS: 7.NS.3

Solve real-world and mathematical problems involving the four operations with rational numbers.

Secondary CCLS: None

Statewide Average Points Earned: 1.08 out of 2

60

Members of a baseball team raised \$967.50 to go to a tournament. They rented a bus for \$450.00 and budgeted \$28.75 per player for meals. They will spend all the money they raised.

Write and solve an equation that models this situation and could be used to determine the number of players, p , the team could bring to the tournament.

Show your work.

$$\begin{array}{r} 967.50 \\ -450.00 \\ \hline 517.50 \end{array}$$

$$P = (967.50 - 450.00) \div 28.75 = P$$

$$P = 517.50 \div 28.75 =$$

$$P = 18$$

Answer 18 players

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts and procedures embodied in the task. A correct equation is provided ($P = (967.50 - 450.00) \div 28.75$), and the equation is solved correctly to find the correct answer ($P = 18$).

62

The table below shows the prices of different numbers of cards on a web site.

COST OF CARDS

Number of Cards	Price (dollars)
20	13
40	26
60	39
100	65

For each order, the web site applies a 7.7% sales tax to the price of the cards, plus a one-time mailing fee of \$5.95. Based on the information in the table, what will be the total cost for an order for 280 cards?

Show your work.

Answer \$ _____

calculators allowed

Primary CCLS: 7.RP.2,b

Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.

Secondary CCLS: 7.RP.3

Statewide Average Points Earned: 1.20 out of 3

61

Last week Rachel power walked $2\frac{3}{5}$ miles per day on each of the 7 days. During the same week, she also jogged $5\frac{3}{4}$ miles per day on 4 days. What was the total number of miles Rachel power walked and jogged last week?

Show your work.

$$2\frac{3}{5} \times \frac{7}{1} = \frac{91}{5} = 18\frac{1}{5}$$

$$5\frac{3}{4} \times \frac{4}{1} = \frac{23}{1} = 23$$

$$\begin{array}{r} 18\frac{1}{5} \\ + 23 \\ \hline 41\frac{1}{5} \end{array}$$

$$\begin{array}{r} 13 \\ \times 7 \\ \hline 91 \end{array}$$

Answer $41\frac{1}{5}$ miles

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts and procedures embodied in the task. The response calculates the total miles power walked by multiplying the number of miles by seven, for each day of the week, and calculates the total miles jogged by multiplying the number of miles by the four days Rachel jogged ($2\frac{3}{5} \times \frac{7}{1} = \frac{91}{5} = 18\frac{1}{5}$) and ($5\frac{3}{4} \times \frac{4}{1} = \frac{23}{1} = 23$).

The two values are added to determine the total number of miles Rachel power walked and jogged ($18\frac{1}{5} + 23 = 41\frac{1}{5}$).

65

A scientist uses a submarine to study ocean life.

- She begins at sea level, which is at an elevation of 0 feet.
- She travels straight down for 90 seconds at a speed of 3.5 feet per second.
- She then travels directly up for 30 seconds at a speed of 2.2 feet per second.

After this 120-second period, how much time, in seconds, will it take for the scientist to travel back to sea level at the submarine's maximum speed of 4.8 feet per second? Round your answer to the nearest tenth of a second.

Show your work.

Answer _____ seconds

calculators allowed

The table below shows the prices of different numbers of cards on a web site.

COST OF CARDS

Number of Cards	Price (dollars)
20	13
40	26
60	39
100	65

For each order, the web site applies a 7.7% sales tax to the price of the cards, plus a one-time mailing fee of \$5.95. Based on the information in the table, what will be the total cost for an order for 280 cards?

Show your work.

$$\begin{array}{r}
 182 \times 1.077 \\
 + 196.01 \\
 + 5.95 \\
 \hline
 201.96
 \end{array}
 \quad
 \begin{array}{r}
 2 \\
 65 \\
 65 \\
 + 26 \\
 + 26 \\
 \hline
 182
 \end{array}$$

Answer: 201.96

Score Point 3 (out of 3 points)

This response answers the question correctly and demonstrates a thorough understanding of the mathematical concepts and procedures embodied in the task. The response correctly calculates the cost of the 280 cards by adding the cost of 100 cards two times to the cost of 40 cards two times ($65 + 65 + 26 + 26 = 182$). The sales tax is calculated correctly (182×1.077) resulting in the cost of the cards including the tax (196.01). Finally, the cost of shipping is added ($196.01 + 5.95 = 201.96$) to get the total cost.