CHAPTER 1 COMMON CORE ASSESSMENT READINESS

Name _____ Class _____ Date _____

SELECTED RESPONSE

1. Simplify the expression $84 \div 7 - 6 \div 2$.

   A. 21 **C.** 42

   B. 9 **D.** 3

2. Simplify the expression $2 \times 6^2 - 26 \div 2$.

   F. 59 **H.** 46

   G. 10 **J.** 131

3. Simplify the expression $222 - 3\left(5^2 - 4^2\right) + 12$.

   A. 153 **C.** 207

   B. 118 **D.** 5,471

4. In a board game, Maliq gets x points for landing on a red space, $2x$ points for landing on a blue space, and $5x$ points for going all the way around the board. He lands on 21 red spaces, 19 blue spaces, and goes around the board twice, for a total of $21x + 19 \cdot 2x + 2 \cdot 5x$ points. Which expression also represents Maliq's total points?

   F. $(21 + 19)2x + 10x$

   G. $42x$

   H. $69x$

   J. $(21 + 19 + 2)(x + 2x + 5x)$

5. A triangle has sides with lengths of $2x - 7$, $5x - 3$, and $2x - 2$. What is the perimeter of the triangle?

   A. $9x - 12$ **C.** $-x - 6$

   B. $5x - 12$ **D.** $-3x$

6. Simplify $5x^3 + 5(6x^3 - 5b^4)$.

   F. $35x^6 - 25b^4$ **H.** $35x^3 - 5b^4$

   G. $35x^3 - 25b^4$ **J.** $5x^3 - 55x^3\,b^4$

7. Simplify $(56 \div 8 + 3) \cdot 2 - 1$.

   A. 2 **C.** 19

   B. 11 **D.** 59

8. Which expression simplifies to 56?

   F. $7 + 3 \times 6 - 4$

   G. $70 - 5 \div 3 + 8$

   H. $42 \div (6 \times 8)$

   J. $60 - (12 \div 4 + 1)$

9. Simplify $2\left(x^2 + 3y\right) + x + y$

   A. $4x^2 + 6y + xy$

   B. $2x^2 + 14y + 2x$

   C. $4x^2 + 3y + x + y$

   D. $2x^2 + 7y + x$

10. In an online media store, downloaded songs cost \$3 each and books cost \$9 each. Taji paid \$7 in sales tax when he purchased 15 songs and 3 books. Write and simplify an expression to show how much Taji spent on everything, including sales tax.

    F. $3 + 15 + 9 + 3 + 7$; \$37

    G. $3 \times 15 + 9 \times 3 + 7$; \$223

    H. $3 \times 3 + 9 \times 15 + 7$; \$151

    J. $3 \times 15 + 9 \times 3 + 7$; \$79

© Houghton Mifflin Harcourt Publishing Company

11. A fence has a total of 650 planks. Violeta paints n planks each day. Write an algebraic expression for how many days it will take Violeta to finish painting the fence.

A. $\frac{650}{n}$ **C.** $650n$

B. $\frac{n}{650}$ **D.** $650 - n$

CONSTRUCTED RESPONSE

12. How would you write a phrase that represents the expression $24x + 19$?

13. Identify the mistake that was made in simplifying the expression. Then correctly simplify the expression.

$3(x - 6) + (4x + 12) - 6x$

$= 3x - 9 + 4x + 12 - 6x$

$= (3x + 4x - 6x) + (-9 + 12)$

$= x + 3$

14. Describe how to simplify the expression given below. State any properties used.

$3p + 4m - 6 - p + 3m + 5p - 11 - m$

© Houghton Mifflin Harcourt Publishing Company

CHAPTER 2 COMMON CORE ASSESSMENT READINESS

Name _____ Class _____ Date _____

SELECTED RESPONSE

The table gives some elevations relative to sea level. Use the table for 1–2.

Continent	Highest point (ft)	Lowest point (ft)
North America	20,320	−282
South America	22,834	−131
Africa	19,340	−512
Asia	29,028	−1,339
Australia	7,310	−52
Europe	18,510	−92

1. Which continent has the second to highest point?

   A. Africa **C.** North America

   B. Asia **D.** South America

2. Which continent has the second to lowest point?

   F. Africa **H.** Europe

   G. Australia **J.** North America

3. A diver is working 30 yards below sea level. Another diver is taking a break on a platform directly above him that is 5 yards above seal level. How far apart are the two divers?

   A. 5 yards **C.** 35 yards

   B. 25 yards **D.** 40 yards

4. Thuy has $625 in her checking account. She writes two checks for $23 each and then makes one deposit of $146. What is Thuy's final checking account balance?

   F. $433 **H.** $771

   G. $725 **J.** $817

5. Sally's baked bean recipe calls for 5 pounds of sugar and 20 pounds of dried beans. How many pounds of sugar are needed for a recipe using just 1 pound of dried beans?

   A. $\frac{1}{5}$ pound **C.** 1 pound

   B. $\frac{1}{4}$ pound **D.** 4 pounds

6. The temperature in Franklin City is −5 °C. The temperature in Silver City is four degrees less. What is the temperature in Silver City?

   F. −9 °C **H.** −4 °C

   G. −5 °C **J.** 9 °C

7. The price of one share of a company declined $12 per day for 6 days. How much did the price of one share decline in total after the 6 days?

   A. $6 **C.** $60

   B. $18 **D.** $72

8. Michel's checking account balance was $345. Michel withdrew $160 three times. What is his balance now?

   F. −$480 **H.** $135

   G. −$135 **J.** $185

9. The table below shows Giorgio's scores at a state golf tournament. What is Giorgio's average score for the five rounds?

Round	1	2	3	4	5
Score	3	1	−3	−2	−4

   A. −4 **C.** −2

   B. −3 **D.** −1

© Houghton Mifflin Harcourt Publishing Company

10. Lonnie ran 3 miles each day of her vacation. She ran a total of 24 miles. How many days was she on vacation?

F. 6 **H.** 12

G. 8 **J.** 72

11. Sam wants to bicycle a total of 600 miles to prepare for a race. He will bicycle 15 miles each day. How many days must he bicycle to reach his goal?

A. 40 days **C.** 300 days

B. 50 days **D.** 585 days

12. A treasure chest sits 1,256 feet below sea level. A captain looking for the treasure is in his house 769 feet above sea level. What is the vertical distance between the treasure chest and the captain's house?

F. –496 feet

G. 496 feet

H. 1,256 feet

J. 2,025 feet

13. The ABC Corporation had a profit of $3,476 in February. It had a loss of $4,509 in March. What was its net gain for February and March?

A. –$7,985 **C.** $1,033

B. –$1,033 **D.** $7,985

CONSTRUCTED RESPONSE

14. A football team must move the ball forward at least 10 yards from its starting point to make a first down. If the team has 2 losses of 2 yards each and a gain of 12 yards, does the team make a first down? justify your answer.

15. Lionel finished four rounds of a golf tournament. His combined total score after playing all four rounds was −10. His scores on the first three rounds were −4, −2, and −6. What was his score on the last round? Justify your answer.

16. Mr. Frommer's original loan balance was $4,376. He made three monthly payments of $129. He also made an extra payment of $98. Write and simplify an expression that finds Mr. Frommer's new balance.

17. The drop in temperature from 6:00 A.M. to 12:00 P.M. was 14 °F. What is the average hourly drop in temperature for that time frame?

18. Herbert's checking account balance was $233. His account has overdraft protection if he withdraws more than his balance, but the bank charges $12 for covering the overdraft. Herbert made 4 withdrawals of $70 each. Does Herbert's account require overdraft protection? Why or why not? What is his final balance?

© Houghton Mifflin Harcourt Publishing Company

CHAPTER 3 COMMON CORE ASSESSMENT READINESS

Name _____ Class _____ Date _____

SELECTED RESPONSE

1. Misha has a board that is $17\frac{1}{2}$ inches long that he has to cut into 3 equal pieces. How long should each piece be?

   A. $5\frac{2}{3}$ inches

   B. $5\frac{5}{6}$ inches

   C. $8\frac{3}{4}$ inches

   D. $14\frac{1}{2}$ inches

2. Jenni buys a piece of fabric that is $4\frac{7}{8}$ yards long. What is the decimal equivalent of $4\frac{7}{8}$?

   F. 0.875 H. 4.875

   G. 4.8 J. 4.95

3. A girl is snorkeling 1 meter below sea level and then dives down another 0.5 meter. How far below sea level is the girl?

   A. 0.5 meter below sea level

   B. 1 meter below sea level

   C. 1.5 meters below sea level

   D. 2 meters below sea level

4. A mountain climber climbed up a cliff $\frac{1}{4}$ mile at a time. He did this 5 times in one day. How many miles did he climb up?

   F. $\frac{1}{4}$ mile

   G. $\frac{3}{4}$ mile

   H. 1 mile

   J. $1\frac{1}{4}$ miles

5. Uma's salad dressing recipe calls for $\frac{1}{2}$ cup of yogurt. She wants to triple her recipe. How much yogurt does she need?

   A. $1\frac{1}{2}$ cups C. 3 cups

   B. 2 cups D. $3\frac{1}{2}$ cups

6. Sean bought 4.8 pounds of beef. His total was $11.76 before tax. How much did Sean pay per pound of beef?

   F. $2.45 H. $16.56

   G. $6.96 J. $56.45

7. At the end of the year, Juan has $52.71 more than 4 times his balance at the beginning of the year. If his ending balance is $172.90, what was his balance at the beginning of the year?

   A. $30.05

   B. $56.41

   C. $95.94

   D. $120.20

8. Tim and Todd are twins. At birth, Todd weighed $1\frac{1}{6}$ pounds more than Tim's weight. If Todd weighed $7\frac{2}{3}$ pounds at birth, how much did Tim weigh at birth?

   F. $4\frac{1}{3}$ pounds

   G. $6\frac{1}{2}$ pounds

   H. $7\frac{1}{6}$ pounds

   J. $8\frac{5}{6}$ pounds

9. Jody is cutting wood to make picture frames. How many pieces of wood that are $10\frac{3}{4}$ inches long can she cut from a board that is $75\frac{1}{4}$ inches long?

   A. 7 pieces

   B. 10 pieces

   C. 65 pieces

   D. 85 pieces

© Houghton Mifflin Harcourt Publishing Company

10. Jim raised $43.64 for the community food bank. Rina raised $165.23 for the food bank, and Everett raised $23.09 for the food bank. How much did they raise together?

F. $66.73

G. $165.23

H. $208.87

J. $231.96

11. A new poll shows that $\frac{9}{11}$ of all students like to eat pizza. Jan wants to write $\frac{9}{11}$ as a decimal. What is $\frac{9}{11}$ in decimal form?

A. 0.8

B. 0.81

C. 0.8181...

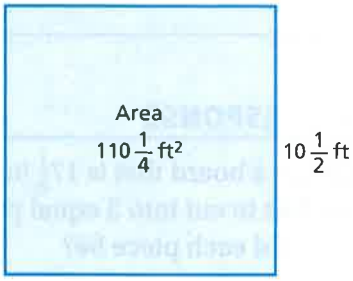
D. 0.90

CONSTRUCTED RESPONSE

12. Sheila has to pack 128 baskets of apples. She has packed $\frac{1}{4}$ of the baskets. How many baskets are left for her to pack?

13. Leanne was asked on a math test if the number 0.58 is a rational number. She says it is not a rational number. Is she correct? Why or why not?

14. Is the rectangular room shown below a square? Explain your answer.



15. Mr. Carrara has a red car and a blue car. He measured the volume of each car's gas tank and each car's mileage. Find the distance each car can travel on a single tank of gas. Which car travels farther on a single tank? Explain.

Car	Gas Tank Volume	Highway Mileage
Red	19 gal	25.3 mi/gal
Blue	16 gal	28.4 mi/gal

16. A grocery store advertises cherries on sale for $2 per pound. At a different store Millie paid $11 for $2\frac{3}{4}$ pounds of cherries. How much more did Millie pay per pound for cherries than if she had bought them on sale? Explain.

© Houghton Mifflin Harcourt Publishing Company

CHAPTER 4 COMMON CORE ASSESSMENT READINESS

Name _____ Class _____ Date _____

SELECTED RESPONSE

1. Marcus hikes at a rate of 2 miles per hour. If he hikes for $6\frac{1}{3}$ hours, how many miles will he hike?

   A. $18\frac{2}{3}$ miles **C.** $12\frac{2}{3}$ miles

   B. 14 miles **D.** $8\frac{1}{3}$ miles

2. Laura paid $27 for three books. If all of the books cost the same, how much did one book cost?

   F. $24 **H.** $81

   G. $9 **J.** $0.90

3. The height of a tower on a scale drawing is 18 centimeters. The scale is 2 cm:19 m. What is the actual height of the tower?

   A. 342 m **C.** 684 m

   B. 171 m **D.** 36 m

4. A group decides to go white-water rafting on a river. The map they have of the river has the scale 3 inches:7 miles. On the map, the distance between the start point and the end point of their trip is 15 inches. What is the actual distance?

   F. 49 mi **H.** 2.33 mi

   G. 6.43 mi **J.** 35 mi

5. If you can type 1080 words in 40 minutes, then how many words per minute can you type?

   A. 180 words/min

   B. 31 words/min

   C. 27 words/min

   D. 9 words/min

6. Harriet paid $349.65 for 7 fruit trees. If each of the trees cost the same, what is the cost for one tree?

   F. $58.27 **H.** $41.09

   G. $49.95 **J.** $49.90

7. It took 3.3 hours for Marianne to drive 178.2 miles. What was her average speed for the trip?

   A. 54 mi/h

   B. 554 mi/h

   C. 59.3 mi/h

   D. 60 mi/h

8. The Jackson family drove 496 miles in 8 hours. Which is the unit rate in fraction form?

   F. $\frac{496 \text{ miles}}{1 \text{ hour}}$

   G. $\frac{62 \text{ miles}}{1 \text{ hour}}$

   H. $\frac{1 \text{ mile}}{62 \text{ hours}}$

   J. $\frac{1 \text{ hour}}{496 \text{ miles}}$

9. Which of the following ratios are proportional?

   A. $\frac{2}{3}, \frac{3}{4}$ **C.** $\frac{6}{9}, \frac{9}{12}$

   B. $\frac{5}{6}, \frac{11}{2}$ **D.** $\frac{3}{5}, \frac{9}{15}$

10. Find an equivalent ratio to $\frac{12}{60}$.

    F. $\frac{2}{3}$ **H.** $\frac{1}{5}$

    G. $\frac{4}{5}$ **J.** $\frac{3}{8}$

© Houghton Mifflin Harcourt Publishing Company

11. A factory worker can package 150 games in 15 minutes. How many games can he package per minute?

A. 20

B. 135

C. 8.33

D. 10

12. Match the proportion with its solution.
$\frac{3}{2} = \frac{t}{18}$

F. 27

G. 2

H. 5

J. $\frac{1}{3}$

CONSTRUCTED RESPONSE

13. You are working as an assistant to a photographer. The photographer has asked you to answer the following question.

A customer brought in a photograph that is 5 inches wide by 7 inches high. The customer wants the photograph enlarged to a photograph that is 15 inches wide and 20 inches high. Explain why this cannot be done without cropping the picture.

14. A model is built to a scale of 1 ft:87 ft. If a model airplane is 3 feet long, how many feet long is the actual plane?

15. The cooking class used 18 cups of flour to make 8 identical loaves of bread. How many cups of flour were needed for each loaf? Express each answer as a mixed number in simplest form.

16. To make lemonade, 2 cups of lemon juice are mixed with 7 cups of water. Describe and correct the error in the proportion used to find the number of cups of lemon juice j to mix with 28 cups of water.

$\frac{2}{7} = \frac{28}{j}$

© Houghton Mifflin Harcourt Publishing Company

CHAPTER 5 COMMON CORE ASSESSMENT READINESS

Name _____ Class _____ Date _____

SELECTED RESPONSE

1. Temperatures were taken after every 10 minutes for 4 experiments.

Experiment 1	52°	26°	13°
Experiment 2	28°	56°	84°
Experiment 3	14°	28°	56°
Experiment 4	67°	54°	41°

Which of the experiments' temperatures have a proportional relationship with time?

A. Experiment 1

B. Experiment 2

C. Experiment 3

D. Experiment 4

2. Weights of different materials were taken for three lengths: 6 inches, 12 inches, and 18 inches.

Material 1	15	30	60
Material 2	13	26	39
Material 3	31	62	93
Material 4	14	28	42

Which of the materials' weights does NOT have a proportional relationship with length?

F. Material 1

G. Material 2

H. Material 3

J. Material 4

3. Which value would complete the table to make the relationship between the two quantities proportional?

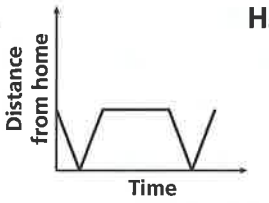
x	*y*
1	22.4
2	44.8
3	?
4	89.6
5	112

A. 44.8 **C.** 89.6

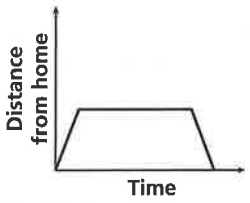
B. 67.2 **D.** 56

4. Gloria drives her daughter to school in the morning and then comes back home. She stays home until she has to go to pick up her daughter from school, and then they both return home again. Which graph best shows the situation?

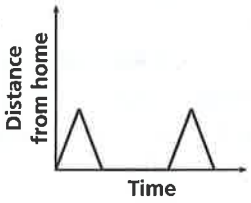
F.



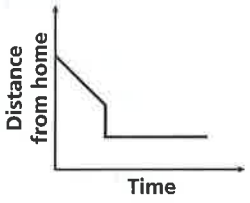
H.



G.



J.



5. The data set below represents a direct variation. Identify the constant of proportionality.

x	1	2	3	4	5	6	7
y	$\frac{9}{2}$	9	$\frac{27}{2}$	18	$\frac{45}{2}$	27	$\frac{63}{2}$

A. $\frac{2}{9}$ **C.** $\frac{9}{2}$

B. 9 **D.** 2

Copyright © Houghton Mifflin Harcourt Publishing Company

6. The ordered pairs (2, 30), (2.5, 37.5), and (3, 45) appear on a graph showing the total distance bicycled after a certain number of hours. What ordered pair on that graph shows the unit rate? What does the unit rate represent?

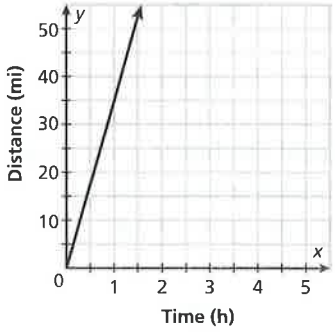
   F. (2, 30); it represents a distance of 30 miles.

   G. (15, 1); it represents bicycling at 15 miles per hour.

   H. (1, 15); it represents bicycling at 15 miles per hour.

   J. (0, 0); it represents the initial distance before bicycling.

7. The graph shows the distance a boat is traveling over time. Does the boat travel at a constant or variable speed? How fast is the boat traveling?



   A. constant speed; 17.5 mi/h

   B. constant speed; 70 mi/h

   C. constant speed; 35 mi/h

   D. variable speed; 70 mi/h

8. Marie rode her bike 325 kilometers in 20 hours last month. Tamara rode her bike 255 kilometers in 15 hours last month. Are these rates proportional? Explain.

   F. No; Marie's rate is 16.25 km/h and Tamara's rate is 17 km/h.

   G. Yes; to find both rates, you need to divide the distance by the time.

   H. No; Marie's distance and time are greater than Tamara's distance and time.

   J. Yes; Marie's and Tamara's rates are almost the same.

CONSTRUCTED RESPONSE

9. The following measurements were taken of a tree.

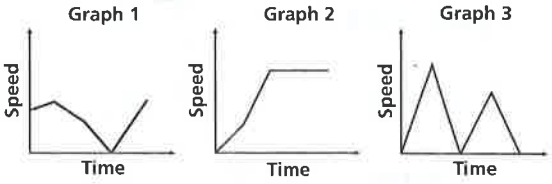
Age	5 months	8 months	13 months	15 months
Height	1.4 feet	2.24 feet	3.64 feet	4.2 feet

   Do the age and height show direct variation? If so, write the equation of variation. If not, explain why not.

10. Do the price and pound show direct variation? If so, write the equation of variation. If not, explain why not.

Price (¢)	24	36	48	60
Pound	8	12	16	20

11. Tell which graph corresponds to the situation described below. Explain the reasons for your choice.



   William does his warm-up stretches, begins walking, and then speeds up to his routine jogging pace, which he continues as he disappears around the corner.

Copyright © Houghton Mifflin Harcourt Publishing Company

CHAPTER 6 COMMON CORE ASSESSMENT READINESS

Name _____ Class _____ Date _____

SELECTED RESPONSE

1. Let p represent the price of a shirt. Joe has to pay sales tax of 10%. Which expression represents the total amount that Joe pays?

   A. p

   B. $1.1p$

   C. $10p$

   D. $p + 10$

2. Eric sells movie tickets. Adult tickets cost \$8 and children's tickets cost \$5. He keeps 15% of his sales. Which expression represents how much he keeps?

   F. $1.2a + 0.75c$

   G. $8a + 5c$

   H. $15(8a + 5c)$

   J. $0.15(13ac)$

3. Martha buys tennis rackets for \$45 dollars. She marks them up 25% before selling them. What is the retail price of the tennis racket?

   A. \$11.25

   B. \$54.00

   C. \$56.25

   D. \$112.50

4. The manager of a sporting goods store raises the price of a basketball from \$16 to \$18. What is the percent increase?

   F. 1.25%

   G. 2%

   H. 11.1%

   J. 12.5%

5. Three friends have dinner at a restaurant. The total bill for the dinner is \$41. The friends want to leave a 15% tip and they want to divide the tip evenly among themselves. Which is the best estimate of each friend's share of the tip?

   A. \$2

   B. \$3

   C. \$4

   D. \$6

6. Kalil's monthly salary is \$3,250, plus he earns a 1.4% commission on his sales each month. Kalil's sales for July were \$51,000. What were his total earnings for July?

   F. \$714

   G. \$3,964

   H. \$7,140

   J. \$10,390

7. Shawn sells sunglasses for s dollars. For his winter sale, he marks them down by 33%. Which expression represents the sale price of the sunglasses?

   A. $0.33s$

   B. $0.66s$

   C. $0.67s$

   D. $1.33s$

8. Luisa sells stuffed animals. She sells a stuffed elephant for \$34.90, and the sales tax is 9% of the sale price. About how much is the sales tax on the elephant?

   F. \$0.32

   G. \$3.15

   H. \$4.90

   J. \$4.95

Copyright © Houghton Mifflin Harcourt Publishing Company

9. Iris wants to buy two necklaces, one for her sister, and one for herself. The necklace for her sister costs $42.00, and the necklace for herself costs $28.00. The sales tax on the purchases is 8%. Find the total cost of Iris's purchases, including sales tax. If necessary, round your answer to the nearest cent.

A. $64.40

B. $5.60

C. $75.60

D. $70.00

10. A bank loans a customer $87,000 for a period of 15 years. The simple interest rate of the loan is 9.2%. What is the total amount that the customer will need to pay the bank over the 15 years?

F. $1,305,000

G. $12,093,000

H. $207,060

J. $120,060

CONSTRUCTED RESPONSE

11. In 2000, the population of a town was 50,000. In 2010, the population of the town was 48,000. What is the percent change in the town's population? Is the percent change an increase or a decrease? Show your work.

12. Camelo puts $2,200.00 into saving bonds that pay a simple interest rate of 3.4%. How much money will the bonds be worth at the end of 5 years? Show your work.

13. Belize is a small country in Central America. The southern portion of the country receives an average of 200 inches of rain per year. The northern portion of the country averages 30% of this total. What is the average yearly rainfall in the northern part of Belize to the nearest inch? Explain.

Copyright © Houghton Mifflin Harcourt Publishing Company

CHAPTER 7 COMMON CORE ASSESSMENT READINESS

Name _____ Class _____ Date _____

SELECTED RESPONSE

1. Which is a measure of center?

   A. distance

   B. mean absolute deviation

   C. mean

   D. sample

2. You want to know the favorite sport of middle school students. Which group would provide a random sample?

   F. the girls' soccer team

   G. the band

   H. every fifth person who leaves the school building at the end of the school day

   J. every tenth person who enters the stadium before a football game

3. How can you make a random sample more accurately reflect the population it represents?

   A. carefully select the data pieces

   B. increase the number of pieces of random data

   C. use a graphing calculator to provide random integers

   D. survey a biased group

4. A department store receives a shipment of 1,000 glasses. Out of a random sample of 10 glasses, 2 are broken. How many glasses would you expect to be broken in the entire shipment?

   F. 2

   G. 50

   H. 200

   J. 250

5. A random sample of a shipment of furniture shows that 2 out of 50 boxes do not contain all of the correct parts. Which proportion could help you find the number of boxes that will not contain the correct parts out of a shipment of 500?

   A. $\frac{2}{50} = \frac{500}{x}$ C. $\frac{50}{500} = \frac{x}{2}$

   B. $\frac{x}{50} = \frac{500}{2}$ D. $\frac{2}{50} = \frac{x}{500}$

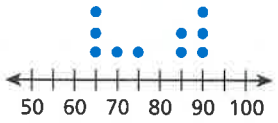
6. A restaurant manager predicts that out of the 200 people that will come to the restaurant in one day, 40 people will order dessert. He based this on a random sample of people he polled yesterday. What ratio could his prediction be based on?

   F. $\frac{1}{5}$ H. $\frac{10}{25}$

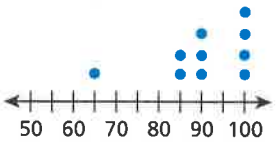
   G. $\frac{7}{10}$ J. $\frac{2}{50}$

7. Maria collects data about the scores on a math test. She finds that the test has a low mean absolute deviation. Which dot plot could represent this data?

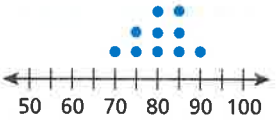
   A.



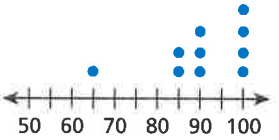
   B.



   C.



   D.



© Houghton Mifflin Harcourt Publishing Company

8. What does the mean absolute deviation tell you?

   F. the average of the data

   G. where the data is centered on a number line

   H. how many dots are above each value on a dot plot

   J. how far the data is spread out from the mean

9. A teacher randomly reads 10 one-page reports written by her students. She finds that 3 of the reports have misspellings. How many reports would she expect to have misspellings if she reads 150 reports?

   A. 10 **B.** 45

   C. 50 **D.** 100

CONSTRUCTED RESPONSE

Peter records the monthly high temperatures, in degrees Fahrenheit at his house for a year. He calculates the mean to be 63 and the mean absolute deviation to be 4.67.

Jorge records the monthly high temperatures, in degrees Fahrenheit at his house for a year. He calculates the mean to be 63 and the mean absolute deviation to be 21.67.

Use this information for 10–11.

10. How would the dot plots of the data differ for Peter and Jorge?

11. What can you infer from the data about the areas where Peter and Jorge live?

12. Explain why surveying 100 different people from the phone book might not be a random sample.

13. A factory produces 500,000 nails per day. The manager of the factory estimates that there are less than 1,500 misshapen nails made per day. A random survey of 500 nails finds 4 misshapen ones. Is the manager correct in his estimate? Explain.

Jane reports the number of years she has known each person in her close group of friends: 5, 8, 4, 2, 9, 10, 3, 11

Jack reports the same information for his group of friends: 4, 2, 3, 1, 4, 3, 5, 2

Use the data for 14–16.

14. Find the mean and mean absolute deviation for both Jane's data and Jack's data.

15. How would you expect the data sets' dot plots to compare to each other?

16. What can you infer about both groups of friends?

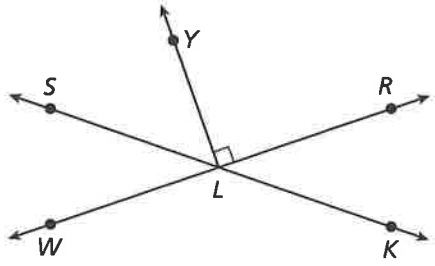
© Houghton Mifflin Harcourt Publishing Company

CHAPTER 8 COMMON CORE ASSESSMENT READINESS

Name _____ Class _____ Date _____

SELECTED RESPONSE

Use the figure for problems 1–5.



1. Which pair of angles are adjacent angles?
   - A. $\angle SLW$ and $\angle RLK$
   - B. $\angle SLW$ and $\angle WLK$
   - C. $\angle SLY$ and $\angle WLK$
   - D. $\angle YLR$ and $\angle YLK$

2. Which pair of adjacent angles are supplementary angles?
   - F. $\angle RLK$ and $\angle YLR$
   - G. $\angle SLY$ and $\angle YLR$
   - H. $\angle RLK$ and $\angle WLK$
   - J. $\angle SLW$ and $\angle WLR$

3. Which pair of angles are complementary angles?
   - A. $\angle YLS$ and $\angle RLK$
   - B. $\angle YLR$ and $\angle YLS$
   - C. $\angle SLW$ and $\angle RLK$
   - D. $\angle WLK$ and $\angle RLK$

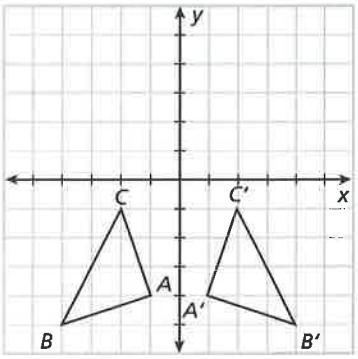
4. The measure of $\angle RLK$ is 38°. What is the measure of $\angle SLY$?
   - F. 52°
   - G. 62°
   - H. 142°
   - J. 218°

5. The sum of which two angle measures equals the measure of $\angle WLK$?
   - A. $\angle SLY$ and $\angle YLR$
   - B. $\angle SLW$ and $\angle YLR$
   - C. $\angle RLK$ and $\angle SLY$
   - D. $\angle RLK$ and $\angle YLR$

6. If two angles are supplementary, what is the sum of their measures?
   - F. 30°
   - G. 90°
   - H. 180°
   - J. 360°

7. Angle D is a vertical angle to $\angle F$. The measure of $\angle D$ is 53°. What is the measure of $\angle F$?
   - A. 3°
   - B. 37°
   - C. 43°
   - D. 53°

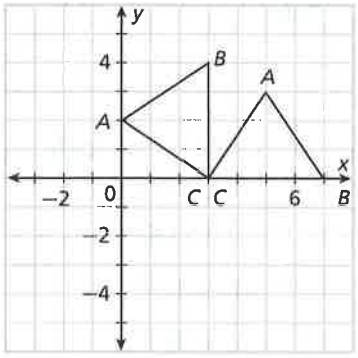
8. Which describes the transformation from the original to the image?



   - F. reflection across the x-axis
   - G. translation
   - H. reflection across the y-axis
   - J. rotation

© Houghton Mifflin Harcourt Publishing Company

9. Which describes the transformation from the original to the image?



A. reflection across the x-axis

B. translation

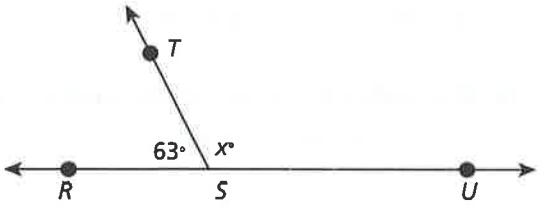
C. rotation

D. reflection across the y-axis

CONSTRUCTED RESPONSE

Use the figure for problems 10 and 11.

10. Write and solve an equation to find the measure of $\angle TSU$.



11. Name two ways to describe angles *TSU* and *TSR*. Explain.

12. Draw a triangle with angle measures of 32°, and 45°, and an included side with a length of 2 inches.

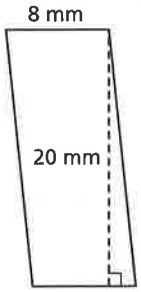
© Houghton Mifflin Harcourt Publishing Company

CHAPTER 9 COMMON CORE ASSESSMENT READINESS

Name _____ Class _____ Date _____

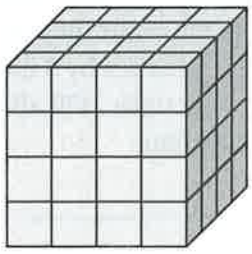
SELECTED RESPONSE

1. Flora is drawing a pattern for a mosaic. What is the area of the pattern?



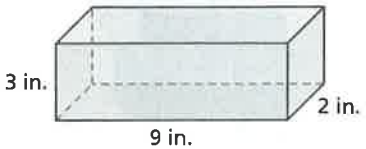
A. 28 square millimeters
B. 140 square millimeters
C. 160 square millimeters
D. 200 square millimeters

2. Ned forms a larger cube from centimeter cubes. What is the surface area of the larger cube?



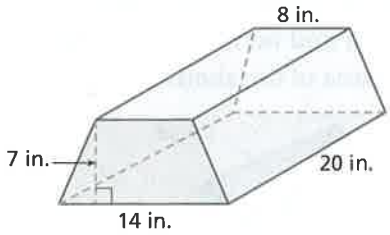
F. 90 square centimeters
G. 96 square centimeters
H. 108 square centimeters
J. 216 square centimeters

3. Maria is wrapping a present for her best friend. How much wrapping paper will she use, not counting overlap?



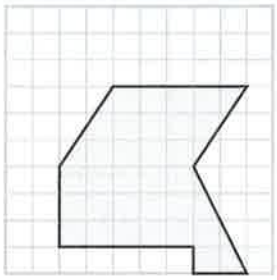
A. 51 square inches
B. 54 square inches
C. 84 square inches
D. 102 square inches

4. Roberto purchases a small toy chest for his children. What is the volume of the toy chest?



F. 1,120 cubic inches
G. 1,540 cubic inches
H. 1,960 cubic inches
J. 3,080 cubic inches

5. Carol wants to tile her utility room. Each tile is 1 square foot. She draws the shape of her room on a grid. Each square unit on the grid represents 1 square foot. How many tiles will she need?



A. 30
B. 34
C. 38
D. 42

6. A circular mirror has a radius of 6 inches. What is the circumference of the mirror?

F. 3π inches
G. 6π inches
H. 12π inches
J. 36π inches

© Houghton Mifflin Harcourt Publishing Company

7. Michael plants a circular garden with a diameter of 10 feet. What is the area of his garden? Use 3.14 for π.

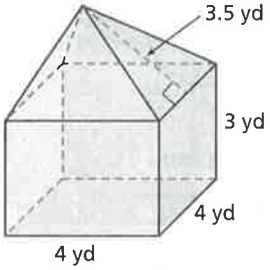
A. 31.4 square feet

B. 62.8 square feet

C. 78.5 square feet

D. 314 square feet

8. An outdoor shed is a composite figure that has a floor and no windows. What is the surface area of the shed?



F. 24 square yards

G. 48 square yards

H. 76 square yards

J. 92 square yards

9. A circular quilt is made from 113.04 square feet of fabric. How much trim is needed to go around its edge? Use 3.14 for π.

A. 6 feet

B. 12 feet

C. 18.84 feet

D. 37.68 feet

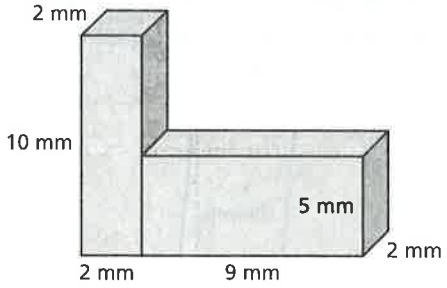
10. Which of the following could NOT be a cross section of a rectangular prism?

F. rectangle **H.** parallelogram

G. circle **J.** triangle

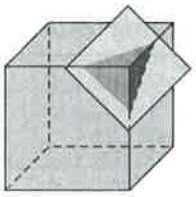
CONSTRUCTED RESPONSE

11. Patrick made a plastic model of his office building. He plans to paint the entire model. Use the model to find the surface area that Patrick will paint. Explain how you found this area.



12. Mary is filling a jar shaped like a square prism with a bag of confetti that is labeled as containing 100 cubic inches. The base of her prism is 3 inches by 3 inches and the height is 10 inches. Will all the confetti fit in the jar? Explain.

13. What shape describes the cross section in the cube below?



© Houghton Mifflin Harcourt Publishing Company

CHAPTER 10 COMMON CORE ASSESSMENT READINESS

Name _____ Class _____ Date _____

SELECTED RESPONSE

1. You roll a standard number cube once. Which of the following gives all of the outcomes of the sample space for this experiment?

   A. 1, 2, 3

   B. A, B, C, D

   C. 1, 2, 3, 4, 5, 6

   D. 2, 4, 6, 8, 10

A hat contains 5 red balls, 8 green balls, and 9 yellow balls. Rina chooses one ball at random from the hat. Use this information for 2–5.

2. What is the probability that Rina chooses a green ball?

   F. $\frac{1}{11}$ **H.** $\frac{9}{22}$

   G. $\frac{4}{11}$ **J.** $\frac{5}{11}$

3. What is the probability that Rina chooses a red ball or a green ball?

   A. $\frac{13}{22}$ **C.** $\frac{17}{22}$

   B. $\frac{7}{11}$ **D.** $\frac{40}{22}$

4. What is the probability that Rina does **not** choose a red ball?

   F. $\frac{5}{22}$ **H.** $\frac{13}{22}$

   G. $\frac{4}{11}$ **J.** $\frac{17}{22}$

5. What is the probability that Rina chooses a yellow ball?

   A. $\frac{7}{22}$ **C.** $\frac{13}{22}$

   B. $\frac{9}{22}$ **D.** $\frac{17}{22}$

6. A standard number cube is rolled once. What is the probability that a number less than 3 is rolled?

   F. $\frac{1}{6}$ **H.** $\frac{1}{2}$

   G. $\frac{1}{3}$ **J.** $\frac{2}{3}$

7. A spinner has white, green, violet, indigo, and blue sections. Which of the following is the complement of the event that the spinner lands on violet?

   A. The spinner lands on green.

   B. The spinner lands on white, green, or indigo.

   C. The spinner lands on white, green, indigo, or blue.

   D. The spinner does not land on blue.

8. The probability that a new car at a local dealership has a bad headlight is 0.003. Which statement best describes the probability of this event?

   F. It is likely that a new car at a local dealership has a bad headlight.

   G. It is unlikely that a new car at a local dealership has a bad headlight.

   H. It is neither unlikely nor likely that a new car at a local dealership has a bad headlight.

   J. It is impossible that a new car at a local dealership has a bad headlight.

9. Which event is impossible?

   A. A bowl has 10 red marbles and 12 green marbles. You choose a red marble from the bowl.

   B. A bag has pieces of paper numbered from 1 to 100. You choose a number divisible by 3.

   C. A spinner has sections lettered A through H. The spinner lands on the 10th letter of the alphabet.

   D. You roll two standard number cubes and the sum of the numbers rolled is 12.

© Houghton Mifflin Harcourt Publishing Company

10. At A-1 Truck Dealership, a customer can order a red, turquoise, or green truck. The truck can have leather or cloth seats. A customer can also choose a black, tan, or grey interior color. From how many possible trucks can a customer choose?

F. 8 H. 27

G. 18 J. 36

CONSTRUCTED RESPONSE

11. Yvonne draws a marble from a basket. She records the color and puts the marble back into the basket. The experiment is repeated several times. She records the frequency of each color in the table.

Color	Frequency
Red	7
Yellow	9
Green	14
Purple	10

What is the experimental probability of choosing a green marble?

12. A hockey team has 12 girls and 9 boys. Each week the coach chooses one player at random to play goalie for the next game. What is the probability that the coach chooses a girl to be the goalie for the next game?

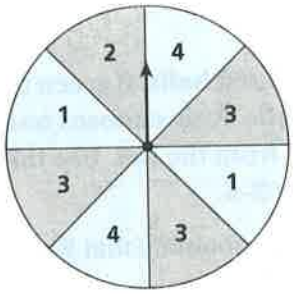
The probability of choosing a 6 at random from a standard deck of playing cards is $\frac{1}{13}$. Use this information for 13 and 14.

13. What is the complement of the event of choosing a 6?

14. What is the probability of the complement of the event of choosing a 6?

15. You roll a standard number cube 1,000 times. Predict the number of times you will roll a 2 or a 5.

Use the spinner for 16 and 17. Tell whether each student is correct and explain.



16. Ashley said, "There are four numbers on this spinner. One of these numbers is 2. Therefore, the probability that this spinner lands on 2 is $\frac{1}{4}$."

17. Suzanne said, "There are two colors on this spinner. One of these colors is blue. Therefore, the probability that this spinner lands on blue is $\frac{1}{2}$."

© Houghton Mifflin Harcourt Publishing Company

CHAPTER 11 COMMON CORE ASSESSMENT READINESS

Name _____ Class _____ Date _____

SELECTED RESPONSE

1. A mover notes the weights of a table and 4 chairs and records $t + 4c \geq 100$ on his invoice. What is he communicating?

   A. The table and 4 chairs each weigh more than 100 pounds.

   B. The table and 4 chairs weigh at most 100 pounds.

   C. The table and 4 chairs weigh around 100 pounds, give or take a little.

   D. The table and 4 chairs weigh at least 100 pounds.

2. Hannah has \$175 to spend. She buys \$120 worth of non-taxable items. Some other items are taxable at 6%. Which inequality shows how much she can spend on taxable items before tax is applied?

   F. $x \leq \$3.30$ **H.** $x \leq \$51.89$

   G. $x \leq \$45.09$ **J.** $x \leq \$165.09$

3. Brad bought a skateboard for \$2 less than half its original price. If he paid \$21.50, which skateboard did he buy?

Skateboard	Price (\$)
Go Green	45
Speedster	47
Up and Down	43
With the Flow	41

   A. Go Green **C.** Up and Down

   B. Speedster **D.** With the Flow

4. Ken has \$18 to spend on two models of the solar system and supplies to paint them. The two models cost the same amount. His paint supplies cost \$4.62. Which expression indicates how much he can spend on each model?

   F. $x \leq \$6.69$ **H.** $x \leq \$13.38$

   G. $x \geq \$6.69$ **J.** $x \geq \$13.38$

5. Mrs. Hughes' class has 22 students. Her principal tells her that her class will increase to 30 students. Which equation can be used to find the percent increase?

   A. $22 + x = 30$

   B. $22 = 30x$

   C. $22 + 22x = 30$

   D. $30 - 22x = x$

6. Which inequality can be used to find how many \$1.25 snack packs can be purchased for \$10.00?

   F. $1.25s \geq 10.00$

   G. $1.25s \leq 10.00$

   H. $\frac{s}{1.25} \geq 10.00$

   J. $\frac{s}{1.25} \leq 10.00$

7. The price of mailing a small package is \$0.32 for the first ounce and \$0.21 for each additional ounce. Sandra paid \$1.16 to mail her package. How much did it weigh?

   A. 4 ounces **C.** 6 ounces

   B. 5 ounces **D.** 7 ounces

8. A bench is being centered on a wall. The wall is 2.7 m long and the bench is 1.8 m wide. Which equation can be used to determine how much of the wall should be on each side of the bench?

   F. $2.7 - 1.8x = 2$

   G. $1.8x - 2 = 2.7$

   H. $2x - 1.8 = 2.7$

   J. $2.7 - 2x = 1.8$

9. Solve $5h + 15 - 3h = 32$.

   A. $h = 16$ **C.** $h = 8\frac{1}{2}$

   B. $h = 23\frac{1}{2}$ **D.** $h = 2\frac{1}{8}$

© Houghton Mifflin Harcourt Publishing Company

10. Solve $2(a - 5) - 5 = 3$.

F. $a = 9$ **H.** $a = -9$

G. $a = 12$ **J.** $a = -12$

11. Juan needs to take a taxi to get to the movies. The taxi charges \$3.50 for the first mile, and then \$2.75 for each mile after that. If the total charge is \$18.63, then how far was Juan's taxi ride to the movie?

A. 6.5 miles **C.** 6.8 miles

B. 5.3 miles **D.** 5.5 miles

12. Solve $6(s-8) \leq -18$

F. $s \leq -5$ **H.** $s \leq 5$

G. $s \leq -\frac{5}{3}$ **J.** $s \leq -11$

13. Larry has \$389.00. A DVD player costs \$97.00, and he can purchase used movies for \$11.55 each. What is the greatest number of movies Larry can buy if he also buys a DVD player?

A. at most 26 **C.** at most 25

B. at most 34 **D.** at most 43

CONSTRUCTED RESPONSE

14. Henry is putting a new baseboard around his room. He used the formula $P = 2(\ell + w)$ to find the perimeter. The perimeter is $72\frac{1}{2}$ feet. He remembers that the width was $16\frac{1}{2}$ feet. Show two different ways to find the length of the other wall.

15. A baseball stadium has 37,101 seats in the three areas listed in the table.

Type of Seat	Number of Seats
Lower Deck	10,238
Upper Deck	p
Box level	721

Suppose all the box level and lower deck seats during a game are filled. Write and solve an inequality to determine how many people could be sitting in the upper deck.

16. Katia has one more than five times the number of wristbands that Shelly has. Rae has three more than twice the number that Shelly has. What expression would show how many more wristbands Katia has than Rae? Show your work.

17. Lacey has \$20 to spend on school supplies. Notebooks cost \$2.50, pens cost \$0.50 and pencils cost \$0.12. Lacey needs 7 notebooks for her classes and also wants to get 4 pens. How many pencils cans she buy? Explain.

© Houghton Mifflin Harcourt Publishing Company