Common Core MATHEMATICS 6

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Summer Solutions.

Minutes a Day–Mastery for a Lifetime!

Lesson #1 Example

1. Julie planted 5 tulip bulbs for every 7 daffodil bulbs. Write the three ratio forms in the box.

2. How many thirds are in three-fourths?

3. $5.23 + 4.12 = ?$

4. Write an algebraic expression for *12 divided by a number.*

5. Gillian earned $35 for cleaning 5 rooms. How much did she get paid for cleaning each room? Write and solve an equation where m is the amount of money Gillian earned per room.

6. Find the area of the triangle using the formula $A = \frac{1}{2}bh$.

7. The table shows the dollar amounts that six friends spent at a concession stand. What is the mean for this data set?

8. When comparing a positive number with a negative number, the smaller number is the _____ number.

9. Circle the diagram that shows the net of a cube.

10. Morgan planted 31 seeds for her vegetable garden, which was $\frac{1}{4}$ of the number of seeds she planted for her flower garden. Write and solve a division equation to find out how many seeds Morgan planted in her flower garden.

11. The scouts are making paper chains to commemorate their city's 200th birthday. Each group of 5 scouts makes 300 feet in an hour. How many scouts are needed to complete 1,200 feet in one hour? How many feet of chain will 6 groups of scouts make in one hour?

12. What is the opposite of 63?

13. Gail spent all day planting her garden. When she took a break for lunch, she had already spent 4 hours working. Which inequality represents the total number of hours Gail spent working on her garden for the whole day?

14. Is -2 a whole number or an integer?

1. 6 to 7

6 : 7 $\frac{6}{7}$

2. A) $\frac{1}{4}$

B) $2\frac{1}{4}$ ✓

$\frac{3}{4} \div \frac{1}{3} =$

K C F

$\frac{3}{4} \cdot \frac{3}{1} =$

$\frac{9}{4} = 2\frac{1}{4}$

3.

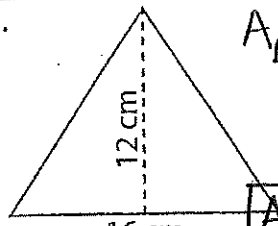
$$\begin{array}{r} 5.23 \\ +\ 4.12 \\ \hline 9.35 \end{array}$$

4. $12 \div x$ or $\frac{12}{x}$

5. $\frac{5m}{5} = \frac{35}{5}$

$m = 7$

6.



$A_\Delta = \frac{1}{2}bh$

$= \frac{1}{2} \cdot 16cm \cdot 12cm$

$= 8cm \cdot 12cm$

$A_\Delta = 96cm^2$

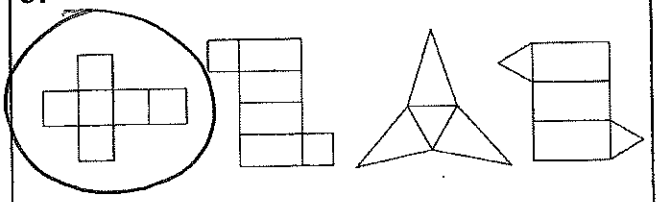
7.

Lindsey	Patrick	Chris	Jennifer	Michelle	Logan
$3	$7	$4	$5	$3	$2

$\frac{3+7+4+5+3+2}{6} = \frac{24}{6} = 4$

8. negative

9.



10. $\frac{s}{4} = 31$ ×4 ×4

$s = 124$

11.

Scouts	5	10	15	20	25	30
Feet of chain per hour	300	600	900	1200	1500	1800

20 scouts for 1,200 ft in one hour

60 groups will make 1,800 ft. in one hour.

12. −63

13.

A) $x < 4$

B) $x > 4$ ✓

C) $x = 4$

D) $x \leq 4$

14. −2 is an integer.

Lesson #2

1. A rate is a type of ratio. It uses quantities that are not measured the same way, like miles and hours. In a unit rate, the denominator is always 1. For example, a speed of 80 kilometers per hour is written as $\frac{number\ of\ kilometers\ traveled}{1\ hour} \rightarrow \frac{80}{1}$. Write the unit rate for 40 kilometers per hour.

2. Give the volume of the rectangular prism in cubic feet.

3. Which are <u>not</u> positive numbers?

4. Which expression is equivalent to $8(4b + b + 3)$?

5. There are 19 Major League Soccer teams and 32 National Football League teams. Write the ratio showing the number of National Football League teams to Major League Soccer teams.

6. Use the fraction model to calculate $\frac{4}{6} \div \frac{1}{3}$. Give the quotient.

7. Opposite numbers are the same distance from _____ on a number line. For example, both +33 and −33 are how many units from zero?

8. Count to find the number of faces, edges, and vertices on the prism.

9. What is the mean number of dots per column?

10. Write $5 \times 5 \times 5 \times 5$ as a numerical expression using exponential notation.

11. In 1990, 4 examples of non-native fish were detected in fresh waters. The Environmental Protection Agency (EPA) surveys every 5 years and finds that the examples of non-native species increases by a factor of 2 with each survey. How many examples of non-native fish were detected in fresh waters by 2005? At the same rate, when could the EPA expect to find 256 examples?

12. Find the area of the rectangle. Double the length and width of the rectangle, then find the new area. Compare the second measurement to the first. Did the area stay the same, double, triple, or quadruple?

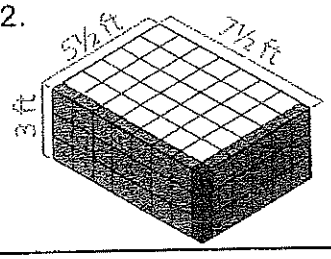
13. $18.54 - 6.1 = ?$

14. Nick and Jason spent $376.99 on 20 baseball tickets to watch the Cleveland Indians. Nick contributed $214.78. Write and solve an addition equation to find out how much money Jason contributed.

Lesson #2

1.

2.



3.

9 +7 −8 31 −33

4.

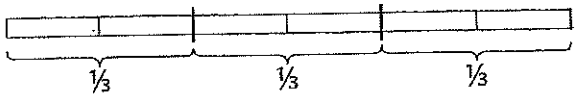
A) $40b + 24$

B) $32b + 3$

C) $24b + 32b$

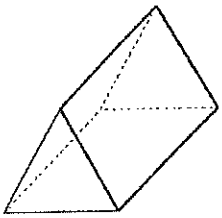
5.

6.



7.

8.

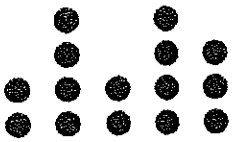


_____ faces

_____ edges

_____ vertices

9.

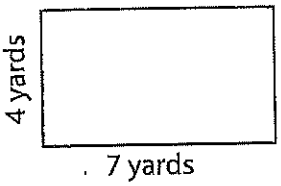


10.

11.

Year	1990	1995	2000	2005	2010	2015
# of non-native fish	4	8	16		64	128

12.



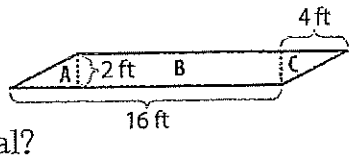
13.

14.

Lesson #3

1. Jacob's dad spent $64.00 for 2 adult and 5 children's tickets to the haunted house. The adult tickets were $12.00 each. What is the unit rate of the children's tickets?

2. A parallelogram has a height of 2 feet and a base of 16 feet. Find the area of each shape that composes the parallelogram. What is the total area of this quadrilateral?



3. Write the integer *negative seven* in the answer box.

4. Rewrite this phrase using algebraic symbols: *nine less than the product of seven and a number.*

5. Write and solve an equation that means *the sum of 2, and a number divided by 4, is 6.*

6. Find the volume of the rectangular prism.

7. Insert the correct sign. Choose >, <, or = .

8. Choose an expression that is equivalent to $(12a - 16b)$.

9. Meadow swam the backstroke in 41 seconds, but Kaitlin swam it in less time. Graph Kaitlin's time on the number line in the answer box.

10. To find the mean (or average), add all of the numbers in the data set; then divide by the number of values. Use the data set below to complete the items in the box.

	July	August	September	October	November	December
Inches of Rain	3.5	4	3	3	2	2.5

11. $4.55 \div 0.5 = ?$

12. The table of equivalent ratios shows ounces and pounds. Fill in the missing data.

13. Which expression is equivalent to $16a + 14$?

14. Morgan ate $\frac{1}{2}$ of a quart of strawberries. Franny ate $\frac{3}{4}$ of a quart of grapes. How many times more fruit did Franny eat than Morgan?

1.

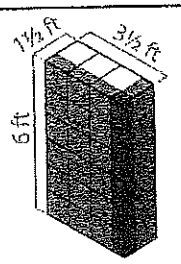
2.

3.

4.

5.

6.



7.

$|-6|$ ◯ $|+6|$

8.

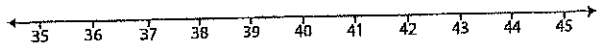
A) 4

B) $4(a - 16b)$

C) $4(3a + 12b)$

D) $4(3a - 4b)$

9.



10.

A) How many values are in this data set? _____

B) Give the sum of all the values. _____

C) Give the mean, or average. _____

11.

12.

Pounds	1	2				
Ounces	16		48			96

13.

A) $4(4a + 10)$

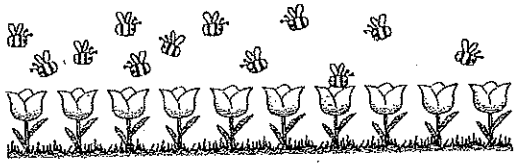
B) $7(a + 2) + 9a$

C) $a(16 + 14)$

14.

Lesson #4

1. Study the illustration. Write the ratio of flowers to bees. Complete the sentence. For every 5 flowers there are _____ bees.



2. Which net makes a cone?

3. Bella received 534 texts last year. This was 211 more than her cousin Riley received. Write an addition equation to find out how many texts Riley received.

4. Simplify the expression by combining like terms. $5c + 14 - c$

5. Circle the two numbers that are the same distance from zero on a number line.

6. Apply the formulas for the area of a triangle and the area of a rectangle to show that the rectangle is composed of two congruent triangles. Give the area of the rectangle. Then, give the area of each triangle.

7. The expression "3 less than a number" is written as $x - 3$, not $3 - x$. Write an algebraic expression for *15 less than a number.*

8. $5.16 \times 0.04 = ?$

9. Cindy's Florist Shoppe cut 280 flowers for the table centerpieces. How many flowers go on each table, if there are 40 tables each having the same number of flowers?

10. What is the range of the set of quiz scores?

11. Sweet Bean Bakery made a rectangular cake with an area of $76\frac{1}{2}$ in.^{2}. If the width of the cake was $8\frac{1}{2}$ inches, what was the length of the cake?

12. How would you show 7 feet below sea level if the value given to sea level is zero?

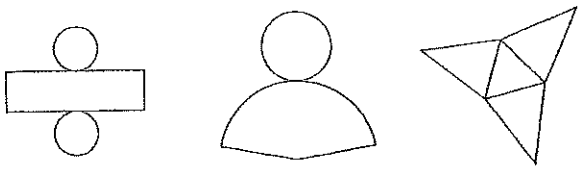
13. To evaluate an expression means to find its value. Evaluate 7^3.

14. The table of equivalent ratios shows that the cost of a box of 20 cookies is $7.00. Fill in the missing data.

Lesson #4

1.

2.



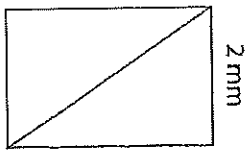
3.

4.

5.

−72 −57 −27 15 57 17

6.



7.

8.

9.

10.

Quiz Scores: 100, 97, 83, 80, 93

11.

12.

A) +7 ft

B) −7 ft

C) either A or B is correct

13.

14.

Cost	$7.00	$14.00				
# of cookies	20	40	60			

Lesson #5

1. Factor out the GCF. Use the distributive property to write an equivalent expression for $8d - 16f$.

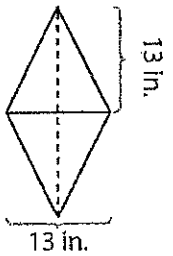
2. $0.006 \times 0.04 = ?$

3. If the class sizes in a school vary from 18 to 24, what is the range?

4. Kip sold raffle tickets during the 3 hours he volunteered at the carnival. He sold 11 tickets in his first hour. Write an inequality to represent how many raffle tickets he sold in all. Graph the inequality on a number line.

5. Circle the two numbers that have the same value.

6. Find the area of one of the congruent triangles. Then find the total area of the rhombus.



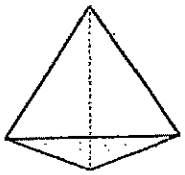
7. The table of equivalent ratios shows centimeters and meters. Fill in the missing data.

8. Bernie's goal is to score 16 goals this season. She scored 9 so far. Write and solve an equation to find out how many more goals Bernie needs to meet her goal. Let g stand for the amount of goals needed.

9. For every 4 laps Brenda swims of the backstroke, she swims 12 laps of the butterfly stroke. What is the ratio of butterfly laps to backstroke laps? What is the simplified ratio?

10. A checking account balance of –$20.28 shows that the account is overdrawn. In other words, the individual owes $20.28. Which best expresses this situation?

11. All the faces of the triangular pyramid are congruent. Find the surface area of the net in the answer box.



12. Find the quotient of $\frac{1}{3} \div \frac{2}{6}$. Multiply to prove your answer.

13. *Three more than ten times a number* matches which algebraic expression?

14. During the flood, the river rose 71.4 inches in 14 hours. If the river rose at a constant rate, what is the unit rate for one hour?

1.

2.

3.

4.

5.

12 −12 +12 0

6.

7.

cm	m
24.5	0.245
28	0.28
32.5	
	0.36
	0.395
43	

8.

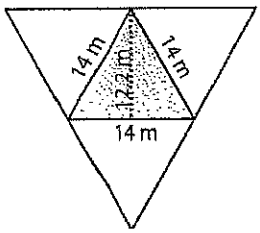
9.

10.

A) $|-20.28| = 20.28$

B) $|20.28| = -20.28$

11.



12.

13.

A) $3 \times 10 \times m$

B) $3m + 10$

C) $3 + 10m$

14.

Lesson #6

1. $13.4 + 2.47 = ?$

2. Find the value of 20^2.

3. The candy store sells 20 chocolate truffles for $45.00. What is the unit rate for each truffle?

4. Write an equivalent expression for $4d + g + g + g$.

5. Which two integers are opposites?

6. Write and solve an inequality that means *6 plus a number is greater than 10.*

7. What is the mode in this data set?

8. A cereal box is a rectangular prism with the dimensions $30\frac{1}{2}$ cm × $23\frac{1}{2}$ cm × 7 cm. What is the total volume of cereal it can hold?

9. Bobbie spent at least $2.35 on lunch every day for 5 days in a row. Write an inequality to show Bobbie's average lunch cost.

10. The choir director needs 9 altos for every 4 sopranos. Fill in the missing data in the table. How many sopranos are needed for 54 altos? How many altos will there be if there are 20 sopranos? Plot all the pairs of values on the coordinate plane in the box.

Altos	9	18				
Sopranos	4					

11. Write an algebraic expression for *16 divided by a number.*

12. A poster board of the Hollywood Sign is one of the props at the school dance. Ella is in charge of painting the two Ls. She needs to know the area to order enough paint. Calculate the area of both Ls.

13. Each morning 16 collies, 14 pugs, and 19 poodles visit the dog park. Write the ratio of pugs to poodles. Show all three forms of the ratio.

14. Are these expressions equivalent? Simplify each expression to prove your answer.

$6(3a + 2p + 8)$ $18a + 12p + 48$ $48 + 18a + 12p$

Lesson #6

1.

2.

3.

4.

5.

$-6 \quad +26 \quad -25 \quad 23 \quad 26 \quad 16 \quad -23$

6.

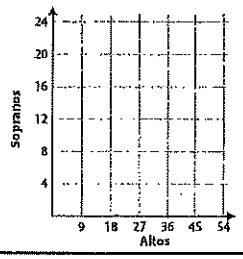
7.

Team	Blue Jays	Robins	Black Birds	Eagles	Hawks
# of Wins	7	3	7	7	5

8.

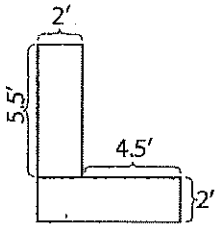
9.

10.



11.

12.



13.

14.