



# Mathematics Grade 7

## Ainslie Benchmark Q2 Review

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**WAKE COUNTY SCHOOLS**

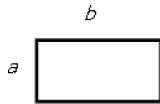
**2013 - 2014**

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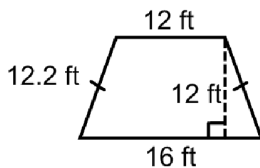
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1. The side lengths of the figure in the diagram are dilated by a scale factor of  $\frac{1}{3}$ . Which statement describes the figure that results?

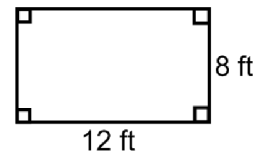


- A. The area of the original figure is 9 times the area of the figure that results.
- B. The perimeter of the original figure is 9 times the perimeter of the figure that results.
- C. The area of the original figure is 6 times the area of the figure that results.
- D. The perimeter of the original figure is 6 times the perimeter of the figure that results.
2. If the quadrilateral is enlarged by a scale factor of 3, what will be the new perimeter?



- A.  $P = 52.2$  ft
- B.  $P = 157.2$  ft
- C.  $P = 193.2$  ft
- D.  $P = 1,512$  ft

3. If the rectangle is dilated by a scale factor of  $\frac{1}{4}$ , what will be the new area?



- A.  $6 \text{ ft}^2$
- B.  $10 \text{ ft}^2$
- C.  $30 \text{ ft}^2$
- D.  $54 \text{ ft}^2$
4. Amanda made a scale drawing of a square garden, which has a side length of 25 feet. She used the scale 2 inches = 5 feet.

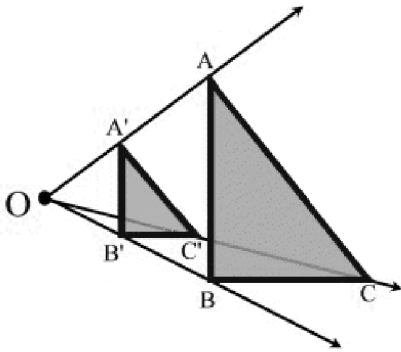
What will be the area of the scale drawing?

- A.  $10 \text{ in}^2$
- B.  $25 \text{ in}^2$
- C.  $100 \text{ in}^2$
- D.  $484 \text{ in}^2$
5. The distance of 15 miles on a map is represented by 2 inches.

If the distance between two cities on the map is 8 inches, what is the actual distance between them?

- A. 60 miles
- B. 75 miles
- C. 90 miles
- D. 120 miles

6.  $\triangle ABC$  is dilated to form  $\triangle A'B'C'$ . The length of  $A'B'$  is 3 units, the length of  $A'C'$  is 5 units, and the length of  $AC$  is 15 units.



What is the length of  $\overline{AB}$ ?

- A. 17 units  
 B. 13 units  
 C. 11 units  
 D. 9 units
7. On a world map, the distance between 2 cities is 7 inches. The scale on the map states that every 500 miles is represented by each half-inch.

How many miles apart are the 2 cities?

- A. 1,750 miles  
 B. 3,500 miles  
 C. 7,000 miles  
 D. 14,000 miles

8. A baseball bat is 33 inches long. A jeweler is making a baseball bat charm for a bracelet. He uses a scale factor of  $\frac{1}{60}$ .

What is the length of the baseball bat charm?

- A.  $\frac{1}{3}$  inch  
 B.  $\frac{11}{20}$  inch  
 C.  $1\frac{9}{11}$  inches  
 D. 3 inches
9. A photograph measures 4 inches by 6 inches. Haley enlarges the photograph to be 32 inches by 48 inches.

What is the scale of the enlarged photograph to the original photograph?

- A. 28 : 1  
 B. 8 : 1  
 C. 1 : 8  
 D. 1 : 28
10. Jessie made 20 ounces of trail mix by mixing granola and peanuts. The ratio of peanuts to granola in the trail mix is 1:4. How many ounces of granola are in the trail mix?

- A. 4 ounces  
 B. 5 ounces  
 C. 12 ounces  
 D. 16 ounces

11. A 2-pound package of shredded cheddar cheese is \$6.98. A  $\frac{1}{2}$ -pound package of shredded cheddar cheese is \$1.98.
- What is the difference in the cost per pound between the larger and smaller packages of shredded cheddar cheese?
- A. The larger package costs \$2.00 more per pound than the smaller package.
- B. The larger package costs \$2.50 more per pound than the smaller package.
- C. The smaller package costs \$0.47 more per pound than the larger package.
- D. The smaller package costs \$2.50 more per pound than the larger package.
12. If  $\frac{1}{4}$  of pizza can feed one person, how many pizzas does Mrs. Kidd need to order for her family if there are 6 members?
- A. 1
- B. 2
- C. 3
- D. 4
13. If a person runs  $\frac{1}{3}$  mile in  $\frac{1}{9}$  of an hour, what is the unit rate per hour?
- A.  $\frac{1}{9}$  mi/hr
- B.  $\frac{1}{3}$  mi/hr
- C. 3 mi/hr
- D. 9 mi/hr

14. William finishes  $\frac{1}{15}$  of farm work in one day. If  $\frac{3}{5}$  of the farm work is remaining, how many days will he take to complete the remaining work?
- A. 3 days
- B. 5 days
- C. 9 days
- D. 15 days
15. Jose ran 7.5 miles in 1.5 hours. If Jose runs at the same speed, which proportion can be used to determine the time ( $t$ ) it would take Jose to run 12 miles?
- A.  $\frac{7.5}{1.5} = \frac{t}{12}$
- B.  $\frac{1.5}{7.5} = \frac{12}{t}$
- C.  $\frac{7.5}{1.5} = \frac{12}{t}$
- D.  $\frac{1.5}{12} = \frac{7.5}{t}$
16. Which ratio forms a proportion with 5 : 15?
- A. 10 : 20
- B. 75 : 5
- C. 3 : 1
- D. 1 : 3

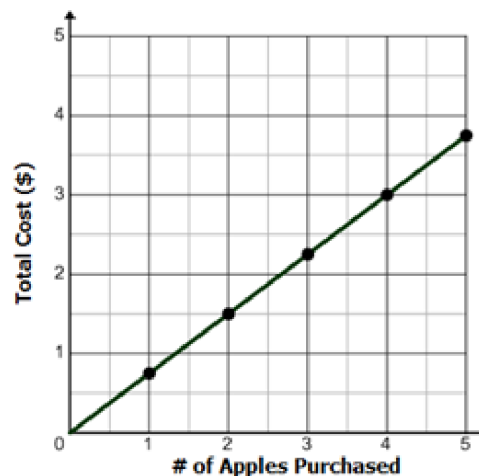
17. A hot dog stand posts the prices of its hot dogs in the table.

# of Hot Dogs	Total Price (\$)
1	3
4	12
6	18
8	24

Which statement can be made about the relationship between the number of hot dogs and the total cost?

- A. The relationship is *not* proportional because the number of hotdogs listed in the table is not increasing by a constant amount.
- B. The relationship is *not* proportional because the total prices listed in the table are not increasing by a constant amount.
- C. The relationship is proportional because the number of hot dogs is multiplied by 3 each time to determine the total cost.
- D. The relationship is proportional because the total prices are even each time, no matter how many hot dogs are purchased.

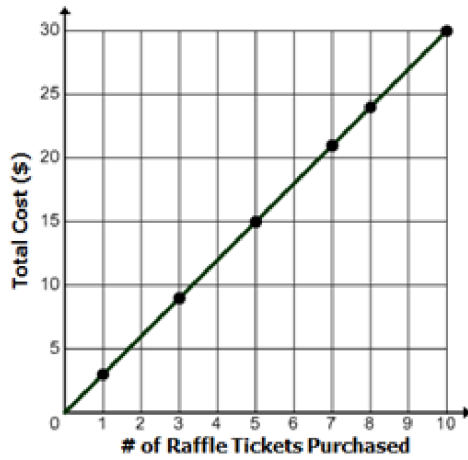
18. The total cost of purchasing apples at the grocery store is graphed.



What is the constant of proportionality?

- A. \$0.50
- B. \$0.75
- C. \$1.25
- D. \$1.50

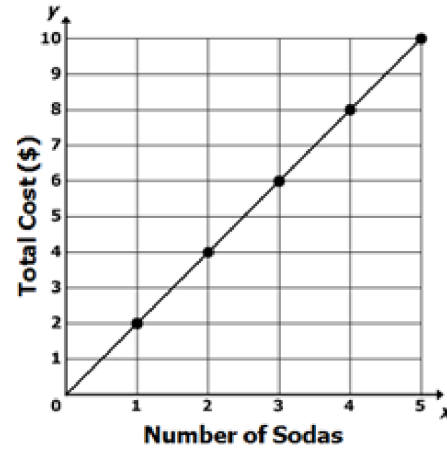
19. The graph shows the cost of raffle tickets depending on how many are purchased.



Which equation represents this graph if  $c$  stands for cost and  $r$  stands for the number of raffle tickets purchased?

- A.  $c = r + 3$   
 B.  $c = r - 3$   
 C.  $c = \frac{1}{3}r$   
 D.  $c = 3r$

20. The graph represents the cost of sodas at a minor league baseball game.



Which equation represents this same relationship where  $x$  represents the number of sodas and  $y$  represents the total cost?

- A.  $y = 2 + x$   
 B.  $y = 2x$   
 C.  $y = 1 + x$   
 D.  $y = x$

#	Answer	Objective
1.	A	Obj : 7.G.1. Solve problems involving scale drawings...
2.	B	Obj : 7.G.1. Solve problems involving scale drawings...
3.	A	Obj : 7.G.1. Solve problems involving scale drawings...
4.	C	Obj : 7.G.1. Solve problems involving scale drawings...
5.	A	Obj : 7.G.1. Solve problems involving scale drawings...
6.	D	Obj : 7.G.1. Solve problems involving scale drawings...
7.	C	Obj : 7.G.1. Solve problems involving scale drawings...
8.	B	Obj : 7.G.1. Solve problems involving scale drawings...
9.	B	Obj : 7.G.1. Solve problems involving scale drawings...
10.	D	Obj : 7.RP.1. Compute unit rates associated with rati...

#	Answer	Objective
11.	C	Obj : 7.RP.1. Compute unit rates associated with rati...
12.	B	Obj : 7.RP.1. Compute unit rates associated with rati...
13.	C	Obj : 7.RP.1. Compute unit rates associated with rati...
14.	C	Obj : 7.RP.1. Compute unit rates associated with rati...
15.	C	Obj : 7.RP.2. Recognize and represent proportional re...
16.	D	Obj : 7.RP.2. Recognize and represent proportional re...
17.	C	Obj : 7.RP.2. Recognize and represent proportional re...
18.	B	Obj : 7.RP.2. Recognize and represent proportional re...
19.	D	Obj : 7.RP.2. Recognize and represent proportional re...
20.	B	Obj : 7.RP.2. Recognize and represent proportional re...

Objectives Measured:	Items	Questions measuring this objective
Obj : 7.G.1. Solve problems involving scale drawings...	9	1, 2, 3, 4, 5, 6, 7, 8, 9
Obj : 7.RP.1. Compute unit rates associated with rati...	5	10, 11, 12, 13, 14
Obj : 7.RP.2. Recognize and represent proportional re...	6	15, 16, 17, 18, 19, 20



#	Key	Item ID
1.	A	MC 43732
2.	B	MC 125029
3.	A	MC 125026
4.	C	MC 137572
5.	A	MC 137573
6.	D	MC 139710
7.	C	MC 139723
8.	B	MC 142062
9.	B	MC 142063
10.	D	MC 40084

#	Key	Item ID
11.	C	MC 123009
12.	B	MC 126404
13.	C	MC 141621
14.	C	MC 141624
15.	C	MC 123001
16.	D	MC 126405
17.	C	MC 142261
18.	B	MC 142262
19.	D	MC 142263
20.	B	MC 142317