

**End of Course Test (RM C1)**

- 1) A grocery store advertises 6 bottles of sports drink for \$4.50. Determine whether or not each ratio is equivalent to the advertisement. Select Equivalent or Not Equivalent.

	Equivalent	Not Equivalent
1 bottle for \$0.75	<input type="radio"/>	<input type="radio"/>
2 bottles for \$1.50	<input type="radio"/>	<input type="radio"/>
4 bottles for \$3.75	<input type="radio"/>	<input type="radio"/>
8 bottles for \$6.00	<input type="radio"/>	<input type="radio"/>
10 bottles for \$7.00	<input type="radio"/>	<input type="radio"/>

- 2) Students at a middle school were surveyed about their favorite cafeteria food. The table shows the results of the survey. Drag the tiles to order the favorite meals from least percent of students (at the bottom) to greatest percent of students (at the top).

Favorite Cafeteria Food	Portion of Students
Cheeseburgers	32%
Tacos	$\frac{1}{5}$
Spaghetti	0.23
Chicken Tenders	$\frac{1}{4}$

- Tacos                      **1)** \_\_\_\_\_
- Chicken Tenders        **2)** \_\_\_\_\_
- Cheeseburgers         **3)** \_\_\_\_\_
- Spaghetti                **4)** \_\_\_\_\_

- 3) An electronics store reduces the price of a printer by 25%. The sale price of the printer is marked as \$46.50.

What percent of the original price is the sale price?

\_\_\_\_\_ %

What was the original price of the printer?

\$ \_\_\_\_\_

**End of Course Test (RM C1)**

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**4A)** Heather rode her bicycle 8.7 miles in 1.2 hours at a steady pace.

**Part A**

How many miles did Heather bike in 1 hour?

\_\_ mi

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**4B) Part B**

How many miles did Heather ride in the last 12 minutes? Justify your answer.

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**5)** Decide whether each product is less than 1, equal to 1, or greater than 1. Sort the products into the appropriate bins.

<b>Greater than 1</b>	<b>Equal to 1</b>	<b>Less than 1</b>

**Answer Bank**

$$\frac{3}{5} \times 2\frac{1}{4} \quad \frac{2}{3} \times 1\frac{1}{3} \quad \frac{7}{8} \times \frac{1}{7} \quad 3\frac{1}{2} \times \frac{2}{7} \quad 1\frac{1}{4} \times \frac{9}{10}$$

## End of Course Test (RM C1)

- 6) A beach resort offers snorkeling, swimming, kayaking, and kite surfing for its guests. The table shows the positions (relative to sea level) of several vacationers. The integer 0 represents sea level. Drag the tiles to order the vacationers from farthest distance below sea level (at the bottom) to greatest distance above sea level (at the top).

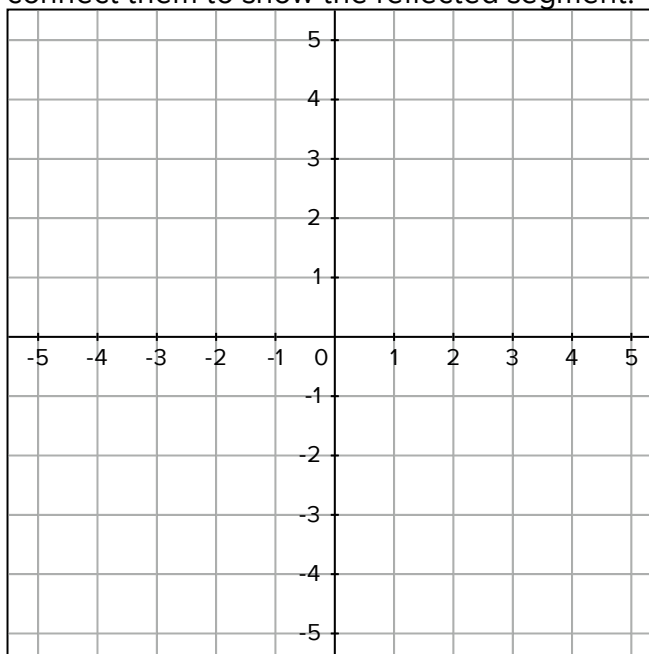
Vacationer	Position Relative to Sea Level (ft)
Eric	-4
Angela	0
Nico	-11
Paulina	16
Darrell	5

- Eric            **1)** \_\_\_\_\_  
 Nico            **2)** \_\_\_\_\_  
 Darrell        **3)** \_\_\_\_\_  
 Paulina        **4)** \_\_\_\_\_  
 Angela        **5)** \_\_\_\_\_

- 7A) Use points  $E(-4, 2)$  and  $F(3, 3)$  to solve each part.

### Part A

Graph segment  $EF$  on the coordinate plane. Then reflect points  $E$  and  $F$  over the  $x$ -axis and connect them to show the reflected segment.



**End of Course Test (RM C1)**

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**7B)** Fill in the blanks using the available answer choices.**Part B**

How do the coordinates of the reflected endpoints compare to the coordinates of the original endpoints?

The  $x$ -coordinates are \_\_\_\_\_ and the  $y$ -coordinates are \_\_\_\_\_.  
(Blank 1) (Blank 2)

Blank 1 options

- opposites
- the same

Blank 2 options

- opposites
- the same

**8)** The cost to rent a jet ski at Sunset Harbor is \$75 per hour. The rental manager charges two hour's rent as a refundable damage deposit plus a nonrefundable booking fee of \$15. The expression  $75(n + 2) + 15$  represents the total amount required to book a jet ski for  $n$  hours. Write the expression in simplified form.

**9)** A student in Michael's class claims that the solution of an equation is  $b = -5$ . Which of the following equations have  $-5$  as the solution? Select all that apply.

- $b - 7 = 2$
- $-10 = 2b$
- $\frac{10}{b} = -50$
- $\frac{b}{-5} = 1$
- $4 - b = 9$

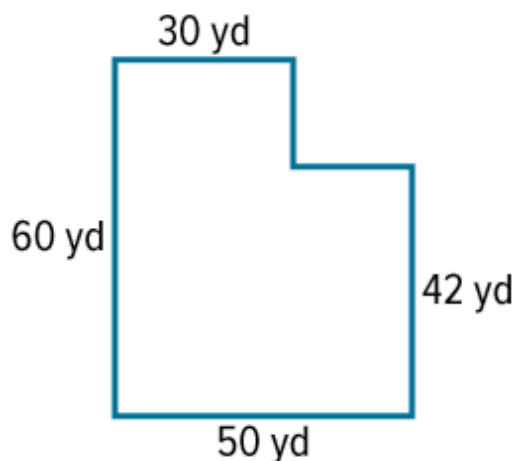
**10)** Tamika has \$25 to spend. She wants to buy some books at a book fair that cost \$4 each. Write an inequality to represent the situation. At most, how many books can Tamika buy? Justify your answer.

**End of Course Test (RM C1)**

- 11)** Darnell says that the area of the rectangle he is looking at is 30 square meters. Valerie says that the area of the triangle she is looking at is also 30 square meters. Select whether each statement could be True or False about the figures.

	True	False
The bases are the same, and the height of the triangle is twice the height of the rectangle.	<input type="radio"/>	<input type="radio"/>
The heights are the same, and the base of the rectangle is half the base of the triangle.	<input type="radio"/>	<input type="radio"/>
The base and the height of the rectangle are both twice the base and height of the triangle.	<input type="radio"/>	<input type="radio"/>
The base and height of both figures are the same.	<input type="radio"/>	<input type="radio"/>

- 12)** The diagram shows the outline of a parking lot. What is the area of the parking lot?

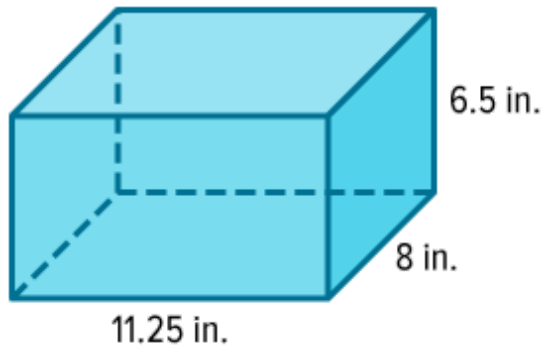


\_\_\_\_\_ yd<sup>2</sup>

**End of Course Test (RM C1)**

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- 13)** The diagram shows the dimensions of a medium size box at a shipping company.



What is the greatest volume of packing material that the box can hold? Round to the nearest tenth if necessary.

\_\_\_\_\_ in<sup>3</sup>

Dakota fills the box with foam packing material to a height of 4 inches. How much more packing material can she put into the box? Round to the nearest tenth if necessary.

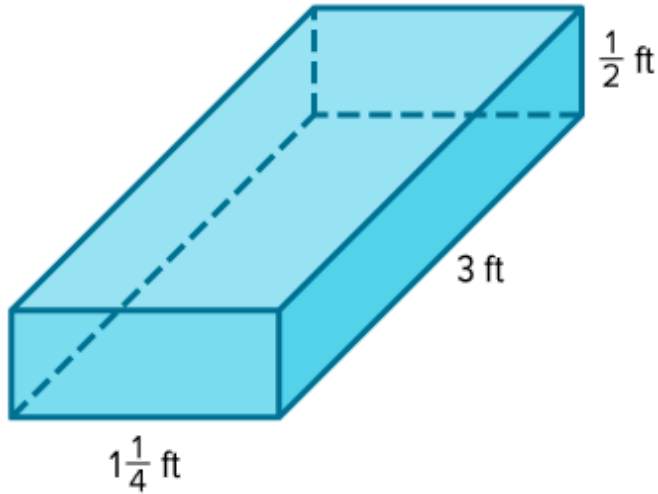
\_\_\_\_\_ in<sup>3</sup>

- 14)** The points  $L(2, 1)$  and  $M(-4, 3)$  are the endpoints of the hypotenuse of a right triangle graphed on a coordinate plane. What point can be graphed to make a right triangle whose hypotenuse is segment  $LM$ ? Is there another point that can be graphed to make a different right triangle? Explain your reasoning.

**End of Course Test (RM C1)**

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- 15) Craig is building a speaker box with the dimensions shown and will wrap it in fabric. What is the least amount of fabric that Craig needs to completely cover the box?



\_\_\_\_\_ ft<sup>2</sup>

## End of Course Test (RM C1)

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**16)** Fill in the blanks using the available answer choices.

The list shows the points scored per game by a football team so far this season: 21, 24, 17, 33, 28, 10, 21. Select the correct value for each measure.

number of data values: \_\_\_\_\_  
(Blank 1)

mean: \_\_\_\_\_  
(Blank 2)

median: \_\_\_\_\_  
(Blank 3)

mode: \_\_\_\_\_  
(Blank 4)

range: \_\_\_\_\_  
(Blank 5)

interquartile range: \_\_\_\_\_  
(Blank 6)

Blank 1 options

- 6
- 7
- 8

Blank 2 options

- 21
- 21.5
- 22

Blank 3 options

- 21
- 22
- 23

Blank 4 options

- 10
- 21
- 23

Blank 5 options

- 20
- 23
- 24

Blank 6 options

- 11
- 14
- 23

**17)** The table shows the number of goals Nikki's soccer club scored in the past 13 games. Select True or False for each statement.

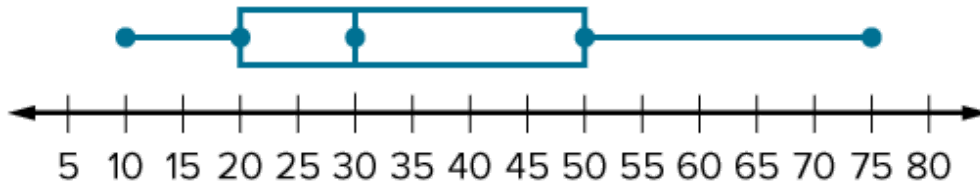
0,1,7,1,0,2,1,1,2,0,2,1,1

	True	False
The median is a better measure to represent the data than the mean.	<input type="radio"/>	<input type="radio"/>
The mean is greater than the median.	<input type="radio"/>	<input type="radio"/>
The range is affected by the score that is an outlier.	<input type="radio"/>	<input type="radio"/>



### End of Course Test (RM C1)

**18)** The box-and-whisker plot shows the ages of people at an amusement park one afternoon. Which of the following statements accurately describe the data? Select all that apply.



- The median age is 35.
- The interquartile range of the ages is 30.
- The box plot shows clusters and gaps in the data.
- The same number of ages occurs between 10 and 20 as between 50 and 75.
- The shape of the data distribution is symmetric.
- Half the ages are between 20 and 50.

**19A)** The table shows the locations of each of four dolphins relative to the water surface of a pool while working with a dolphin trainer. The integer 0 represents the water level at the surface of the pool.

<b>Dolphin</b>	A	B	C	D
<b>Depth (ft)</b>	-8	4	6	-3

**Part A**

Graph points on the number line to represent the locations of the dolphins.



**End of Course Test (RM C1)**

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**19B)** Fill in the blanks using the available answer choices.**Part B**

Which dolphin is closer to the surface of the pool, Dolphin B or Dolphin D? Explain.

Dolphin \_\_\_\_\_ is closer to the surface of the pool because \_\_\_\_\_ is closer to 0 than \_\_\_\_\_ is to 0.  
(Blank 1) (Blank 2) (Blank 3)Blank 1 options

- B
- D

Blank 2 options

- -8
- -3
- 4

Blank 3 options

- -8
- -3
- 4

**20A)** This is a file upload question and cannot be printed.**20B)** Fill in the blanks using the available answer choices.**Part B**

Complete true statements.

The question "What was the most interesting thing that you learned while working on your science fair project?" \_\_\_\_\_ a statistical question.  
(Blank 1)The distribution is \_\_\_\_\_. There is a peak at \_\_\_\_\_. There is a gap from \_\_\_\_\_. There is a cluster from \_\_\_\_\_.  
(Blank 2) (Blank 3) (Blank 4) (Blank 5)Blank 1 options

- is
- is not

Blank 2 options

- symmetric
- not symmetric

Blank 3 options

- 8
- 9
- 10

Blank 4 options

- 8-10
- 13-14
- 10-15

Blank 5 options

- 4-6
- 12-15
- 6-12

**21)** Which of the following expressions have a product that is less than both factors? Select all that apply.

- $0.98 \times 0.72$
- $0.01 \times 0.5$
- $0.001 \times 1.05$
- $0.3 \times 0.8$
- $1 \times 0.075$

**End of Course Test (RM C1)**

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**22)** Fill in the blanks using the available answer choices.

On a coordinate plane, a dock on a lake is represented by point  $(-7.5, 10)$ . A nearby buoy is represented by the point that is a reflection of  $(-7.5, 10)$  across the  $y$ -axis.

The ordered pair (                    ,                     ) represents the location of the buoy.  
(Blank 1) (Blank 2)

The distance between the dock and the buoy is                      units.  
(Blank 3)

Blank 1 options

- -10
- -7.5
- 7.5
- 10

Blank 2 options

- -10
- -7.5
- 7.5
- 10

Blank 3 options

- 2.5
- 15
- 20

**23)** Jaime rode his scooter 990 feet in  $1\frac{1}{2}$  minutes at a constant speed. Which of the following statements are true about his average rate of speed? Select all that apply.

- The average rate of speed was 1,485 feet per minute.
- The average rate of speed was 660 feet per minute.
- Jaime rode 500 feet in  $\frac{3}{4}$  minute.
- Jaime rode his scooter at a rate of 7.5 miles per hour.

**24)** Fill in the blanks using the available answer choices.

The list shows the ages of students in a community college math class: 23, 19, 22, 26, 23, 52, 20. Identify the outlier in the data set. Explain which measure of center best describes the data set with the outlier.

The outlier is                     . The outlier has a greater effect on the                     , so the                      best describes the data set.  
(Blank 1) (Blank 2) (Blank 3)

Blank 1 options

- 19
- 23
- 26
- 52

Blank 2 options

- mean
- median

Blank 3 options

- mean
- median

## End of Course Test (RM C1)

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**25)** Fill in the blanks using the available answer choices.

Miguel and four of his friends each bought a movie ticket and a small combo snack for a matinee showing. The table shows the cost of each item.

Item	Cost (\$)
Matinee Ticket	5.00
Small Combo Snack	3.50

Write an expression to represent the amount they spent altogether.

$$\frac{\text{_____}}{\text{(Blank 1)}} \times \left( \frac{\text{_____}}{\text{(Blank 2)}} + \frac{\text{_____}}{\text{(Blank 3)}} \right)$$

How much did Miguel and his friends spend in all?

\$ \_\_\_\_\_  
(Blank 4)

Blank 1 options

- 3
- 4
- 5

Blank 2 options

- 1.5
- 3
- 5

Blank 3 options

- 1.5
- 3.5
- 5

Blank 4 options

- 34.00
- 42.50
- 51.00

**End of Course Test (RM C1)**

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**26)** Fill in the blanks using the available answer choices.

The list shows a student's quiz scores: 6, 10, 5, 6, 6, 10, 8, 9. Select the correct value for each measure.

number of data values: \_\_\_\_\_  
(Blank 1)

mean: \_\_\_\_\_  
(Blank 2)

median: \_\_\_\_\_  
(Blank 3)

mode: \_\_\_\_\_  
(Blank 4)

range: \_\_\_\_\_  
(Blank 5)

interquartile range: \_\_\_\_\_  
(Blank 6)

mean absolute deviation: \_\_\_\_\_  
(Blank 7)

Blank 1 options

- 6
- 7
- 8

Blank 2 options

- 6.5
- 7.5
- 8

Blank 3 options

- 5
- 6
- 7

Blank 4 options

- 5
- 6
- 7

Blank 5 options

- 5
- 6
- 7

Blank 6 options

- 3.5
- 4
- 4.5

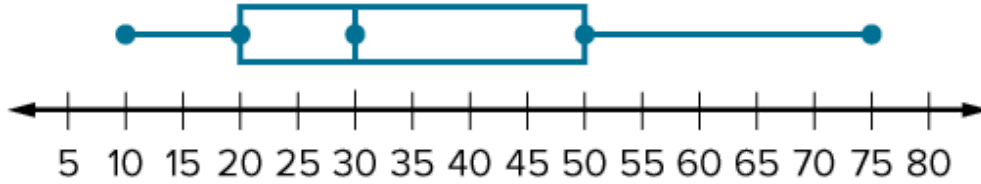
Blank 7 options

- 1.75
- 2
- 2.25

**End of Course Test (RM C1)**

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- 27)** The box-and-whisker plot shows the ages of people at an amusement park one afternoon. Which of the following statements accurately describe the data? Select all that apply.



- The median age is 35.
- The interquartile range of the ages is 30.
- The box plot shows clusters and gaps in the data.
- The same number of ages occurs between 10 and 20 as between 50 and 75.
- The shape of the data distribution is symmetric.
- Half the ages are between 20 and 50.
- The most appropriate measures of center and spread to describe the data distribution are mean and mean absolute deviation.