



FSA
ELA & Mathematics
Assessments

Grade 6
FSA Mathematics
Practice Test Questions

The purpose of these practice test materials is to orient teachers and students to the types of questions on paper-based FSA Mathematics tests. By using these materials, students will become familiar with the types of items and response formats they may see on a paper-based test. The practice questions and answers are not intended to demonstrate the length of the actual test, nor should student responses be used as an indicator of student performance on the actual test. The practice test is not intended to guide classroom instruction.

**Directions for Answering the
Mathematics Practice Test Questions**

If you don't know how to work a problem, ask your teacher to explain it to you. Your teacher has the answers to the practice test questions.

You may need formulas and conversions to help you solve some of the problems. You may refer to the Reference Sheet on page 5 as often as you like.

Use the space in your Mathematics Practice Test Questions booklet to do your work.

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Directions for Completing the Response Grids

1. Work the problem and find an answer.
2. Write your answer in the answer boxes at the top of the grid.
 - Write your answer with the first digit in the left answer box OR with the last digit in the right answer box.
 - Write only one digit or symbol in each answer box. Do NOT leave a blank answer box in the middle of an answer.
 - Be sure to write a decimal point, negative sign, or fraction bar in the answer box if it is a part of the answer.
3. Fill in a bubble under each box in which you wrote your answer.
 - Fill in one and ONLY one bubble for each answer box. Do NOT fill in a bubble under an unused answer box.
 - Fill in each bubble by making a solid mark that completely fills the circle.
 - You MUST fill in the bubbles accurately to receive credit for your answer.

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| 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |

} Answer boxes
} Negative sign
} Fraction bar
} Decimal point
} Number bubbles

When a percent is required to answer a question, do NOT convert the percent to its decimal or fractional equivalent. Grid in the percent value without the % symbol. Do the same with dollar amounts.

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| 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 6 | 6 | 6 | ● | 6 | 6 | 6 |
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| 3 | 3 | 3 | ● | 3 | 3 | 3 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 5 | ● | 5 | 5 | 5 | 5 | 5 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 |
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| 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 3 | 3 | 3 | 3 | 3 | ● | 3 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 6 | 6 | 6 | 6 | 6 | 6 | ● |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 |

Do NOT write a mixed number, such as $13\frac{1}{4}$, in the answer boxes.

Change the mixed number to an equivalent fraction, such as $\frac{53}{4}$, or to an

equivalent decimal, such as 13.25. Do not try to fill in $13\frac{1}{4}$, as it would be

read as $\frac{131}{4}$ and would be counted wrong.

CORRECT

INCORRECT

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| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
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| 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 3 | ● | 3 | 3 | 3 | 3 | 3 |
| 4 | 4 | 4 | ● | 4 | 4 | 4 |
| ● | 5 | 5 | 5 | 5 | 5 | 5 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 |
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OR

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| 2 | 2 | 2 | ● | 2 | 2 | 2 |
| 3 | ● | 3 | 3 | 3 | 3 | 3 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 5 | 5 | 5 | 5 | ● | 5 | 5 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 |

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| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ● | 1 | ● | 1 | 1 | 1 | 1 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 3 | ● | 3 | 3 | 3 | 3 | 3 |
| 4 | 4 | 4 | ● | 4 | 4 | 4 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 |

Grade 6 FSA Mathematics Reference Sheet

Customary Conversions

1 foot = 12 inches
1 yard = 3 feet
1 mile = 5,280 feet
1 mile = 1,760 yards

1 cup = 8 fluid ounces
1 pint = 2 cups
1 quart = 2 pints
1 gallon = 4 quarts

1 pound = 16 ounces
1 ton = 2,000 pounds

Metric Conversions

1 meter = 100 centimeters
1 meter = 1000 millimeters
1 kilometer = 1000 meters

1 liter = 1000 milliliters

1 gram = 1000 milligrams
1 kilogram = 1000 grams

Time Conversions

1 minute = 60 seconds
1 hour = 60 minutes
1 day = 24 hours
1 year = 365 days
1 year = 52 weeks

Formulas

$$A = bh$$

$$A = lw$$

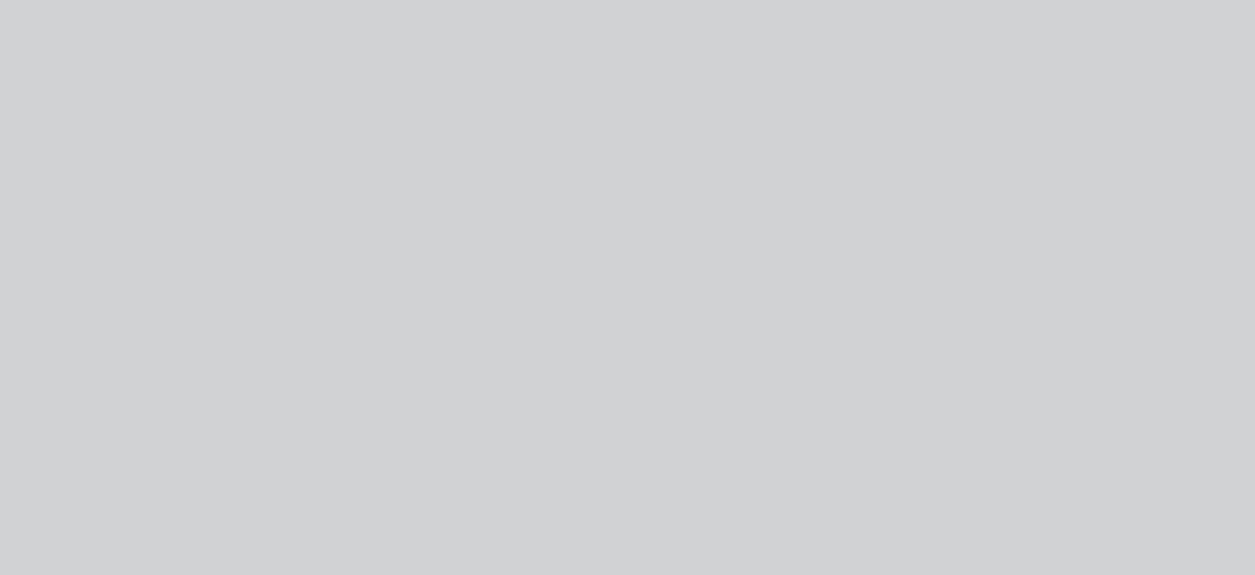
$$A = \frac{1}{2}bh$$

$$A = \frac{1}{2}h(b_1 + b_2)$$

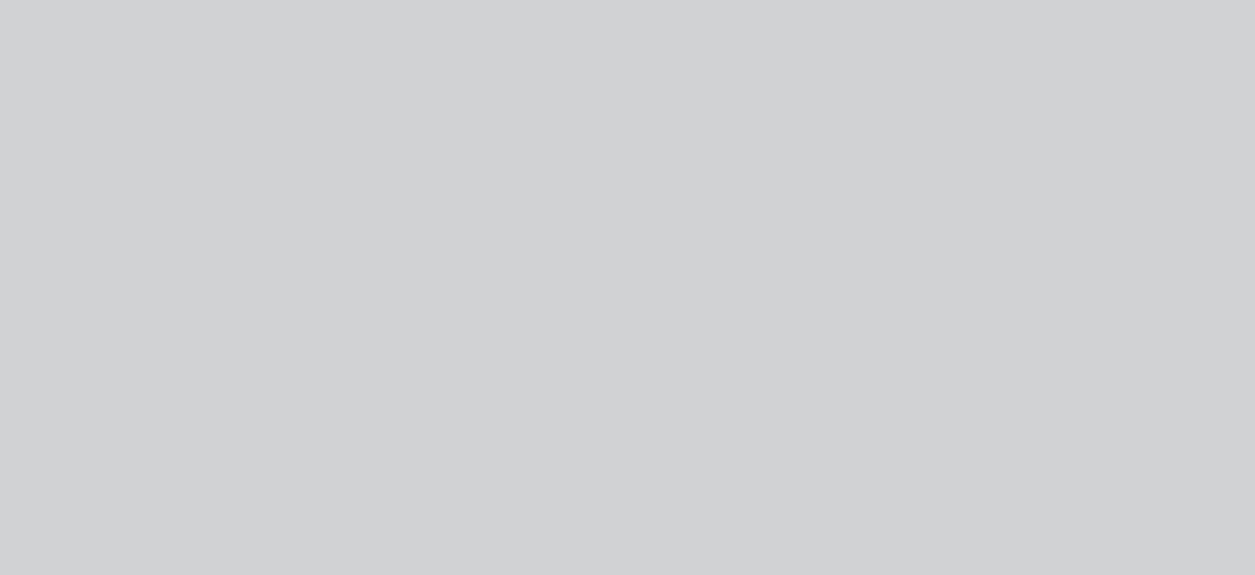
$$V = Bh$$

$$V = lwh$$

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Session 1



Use the space in this booklet to do your work. For multiple-choice items, fill in one bubble for the correct answer. For matching items and multiselect items, fill in the bubbles for all of the correct answers. For items with response grids, refer to the Directions for Completing the Response Grids on pages 3 and 4. If you change your answer, be sure to erase completely. Calculators are NOT permitted for Session 1 of this practice test.

1. Which expression is equivalent to $4(6x + 11)$?

- Ⓐ 68
- Ⓑ $68x$
- Ⓒ $24x + 11$
- Ⓓ $24x + 44$

2. Fill in the bubbles to select the value or values of x that make each equation or inequality true.

| | $x = 1$ | $x = 2$ | $x = 3$ |
|--------------|---------|---------|---------|
| $2x + 5 = 9$ | Ⓐ | Ⓑ | Ⓒ |
| $2x + 5 < 9$ | Ⓓ | Ⓔ | Ⓕ |
| $4x - 5 < 7$ | Ⓖ | Ⓗ | Ⓘ |

3. Chicago has a temperature of -10 degrees Fahrenheit ($^{\circ}\text{F}$). It is colder in Minneapolis than in Chicago.

Select all the values that could represent the temperature of Minneapolis.

- (A) 12°F
- (B) 8°F
- (C) -8°F
- (D) -12°F
- (E) -20°F

4. Dominic is buying candy by the pound for a party. For every 10 pounds of candy he buys, he pays \$12.

What is the cost, per pound, for the candy?

\$

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| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |

5. Which question can be answered using the expression $\frac{1}{3} \div \frac{3}{4}$?
- (A) Dan fills $\frac{1}{3}$ of a mold that holds $\frac{3}{4}$ pound of sand. How much sand did Dan use to fill the mold?
- (B) Dan fills $\frac{3}{4}$ of a mold that holds $\frac{1}{3}$ pound of sand. How much sand did Dan use to fill the mold?
- (C) How many $\frac{3}{4}$ -pound molds are in $\frac{1}{3}$ pound of sand?
- (D) How many $\frac{1}{3}$ -pound molds are in $\frac{3}{4}$ pound of sand?

6. An expression is shown.

$$1608 \div 268$$

What is the value of the expression?

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| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |

7. Nora’s fruit stand sold 12 fewer pineapples than bananas last week. The stand sold 48 bananas last week.

Complete the sentences to determine and interpret the ratio of bananas sold to pineapples sold. For each box, fill in the bubble before the ratio or number(s) that is correct.

Last week, the ratio of bananas sold to pineapples sold was

- | |
|---------|
| (A) 1:4 |
| (B) 3:4 |
| (C) 4:1 |
| (D) 4:3 |
| (E) 4:5 |

This ratio means that for every

- | |
|-------|
| (A) 1 |
| (B) 3 |
| (C) 4 |
| (D) 5 |

banana(s) sold,

the number of pineapples sold was

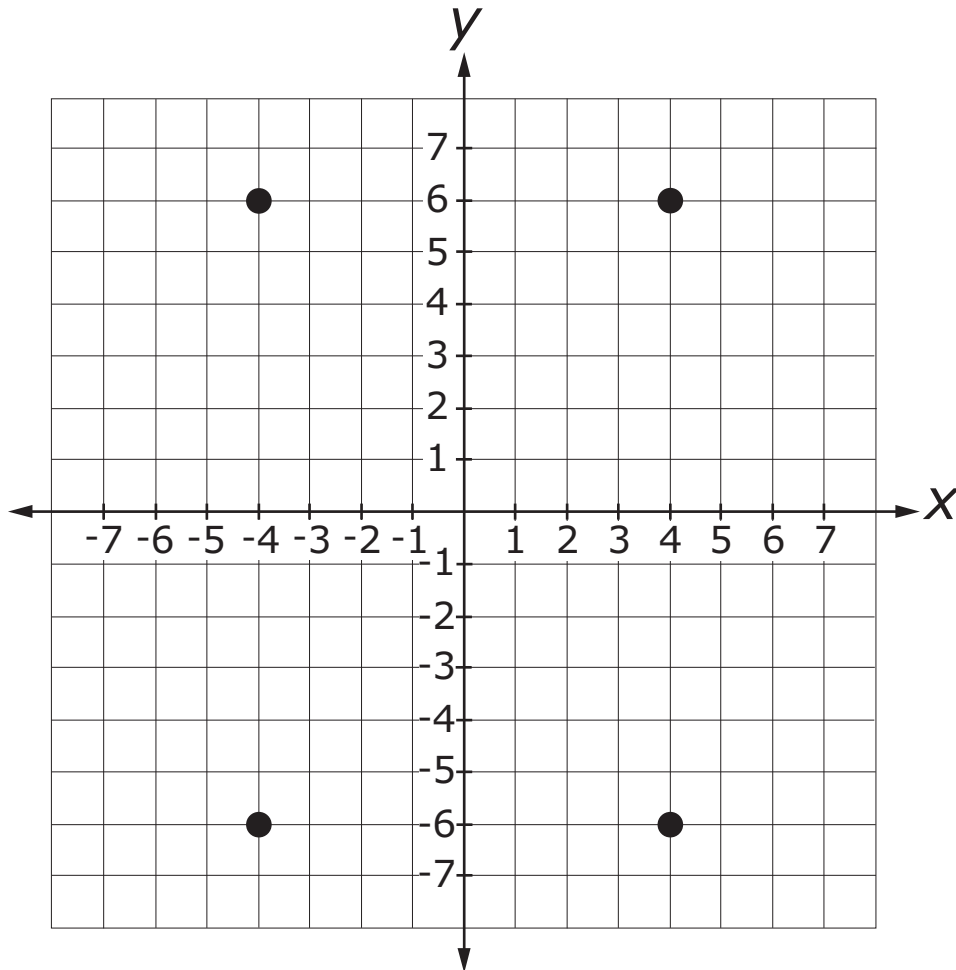
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|-------|
| (A) 1 |
| (B) 3 |
| (C) 4 |
| (D) 5 |

8. Amir collected data from his sixth-grade class at Liberty Middle School.

Which question could Amir ask as a statistical question?

- (A) What time do classes start at Liberty Middle School?
- (B) What is the typical favorite subject in sixth grade?
- (C) How many students were in sixth grade at the start of this year?
- (D) How many subjects are there in sixth grade?

9. Which ordered pair best describes the point plotted in Quadrant II on the coordinate plane shown?



- (A) $(-4, 6)$
- (B) $(6, 4)$
- (C) $(4, -6)$
- (D) $(6, -4)$

10. This question has **two** parts.

Syrilla sells homemade scarves for \$4 each.

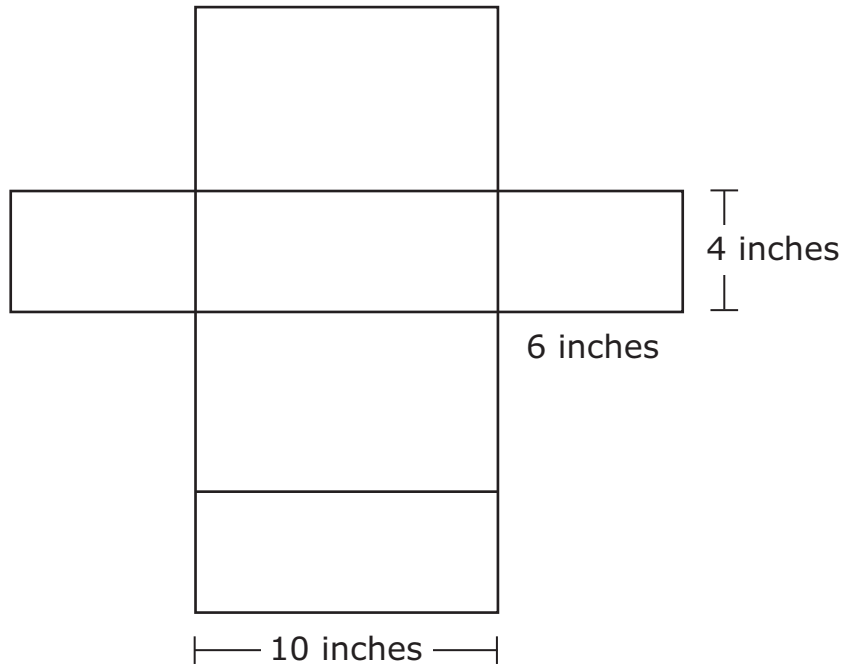
Part A. Which equation could be used to find the number of scarves, x , Syrilla needs to sell in order to earn \$200?

- (A) $\frac{x}{4} = 200$
- (B) $4x = 200$
- (C) $x + 4 = 200$
- (D) $x - 4 = 200$

Part B. Complete the sentence by selecting the correct number. For the blank, fill in the bubble **before** the number that is correct.

Syrilla needs to sell _____ [(A) 50 (B) 196 (C) 204 (D) 800] scarves in order to earn \$200.

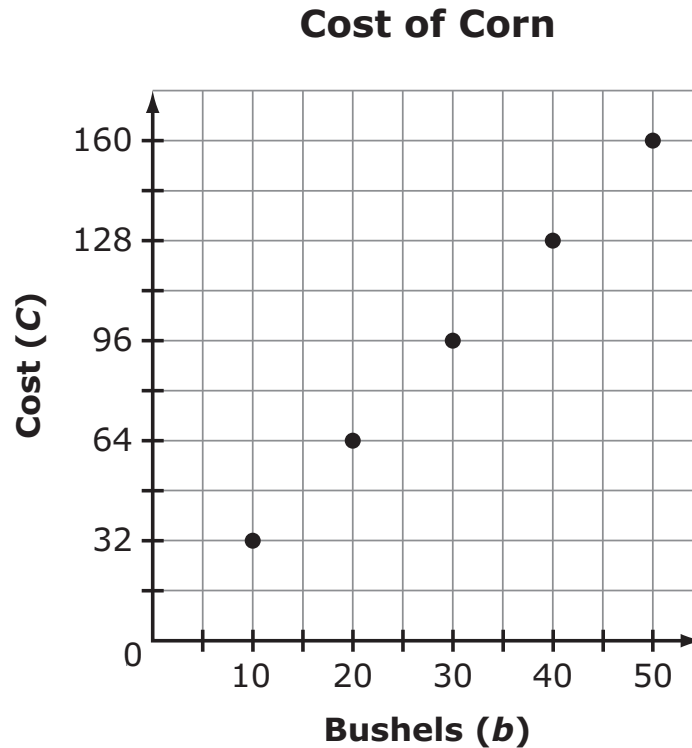
11. Carl is shipping a cardboard box that is a rectangular prism. The net of Carl's box is shown.



What is the area of cardboard, in square inches, required for Carl's box?

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| 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 |
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| 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 |

12. The cost per bushel of corn at Farm A is constant. The graph shows the total cost, C , in dollars, of purchasing different numbers of bushels of corn, b , at a farm.



In the table below, fill in the bubbles to select the phrase that represents the independent variable, the phrase that represents the dependent variable, and the equation that represents the graph.

| Independent Variable | Dependent Variable | Equation |
|------------------------------------|------------------------------------|-------------------|
| (A) cost per bushel of corn | (E) cost per bushel of corn | (I) $b = 3.2C$ |
| (B) number of bushels of corn | (F) number of bushels of corn | (J) $C = 3.2b$ |
| (C) total cost for bushels of corn | (G) total cost for bushels of corn | (K) $b = C + 3.2$ |
| (D) bushels of corn per dollar | (H) bushels of corn per dollar | (L) $C = b + 3.2$ |

13. What is the value of $(5)^3$?

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| 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 |
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| 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 |

14. A square has a perimeter of 36 units.

One vertex of the square is located at (3, 5) on the coordinate grid.

What could be the x - and y -coordinates of another vertex of the square?

$x =$

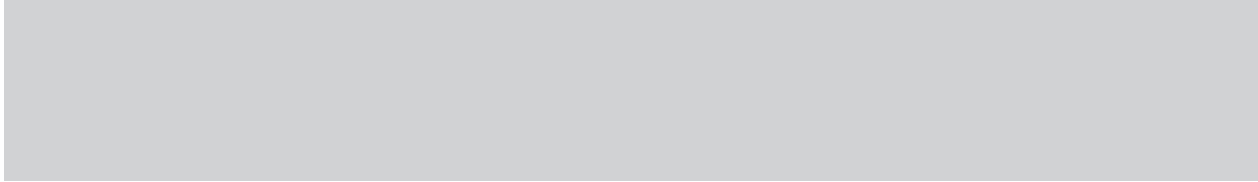
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| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
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| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
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| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |

$y =$

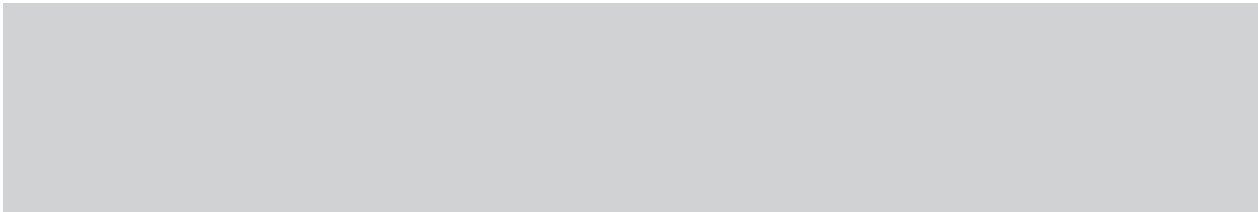
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| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
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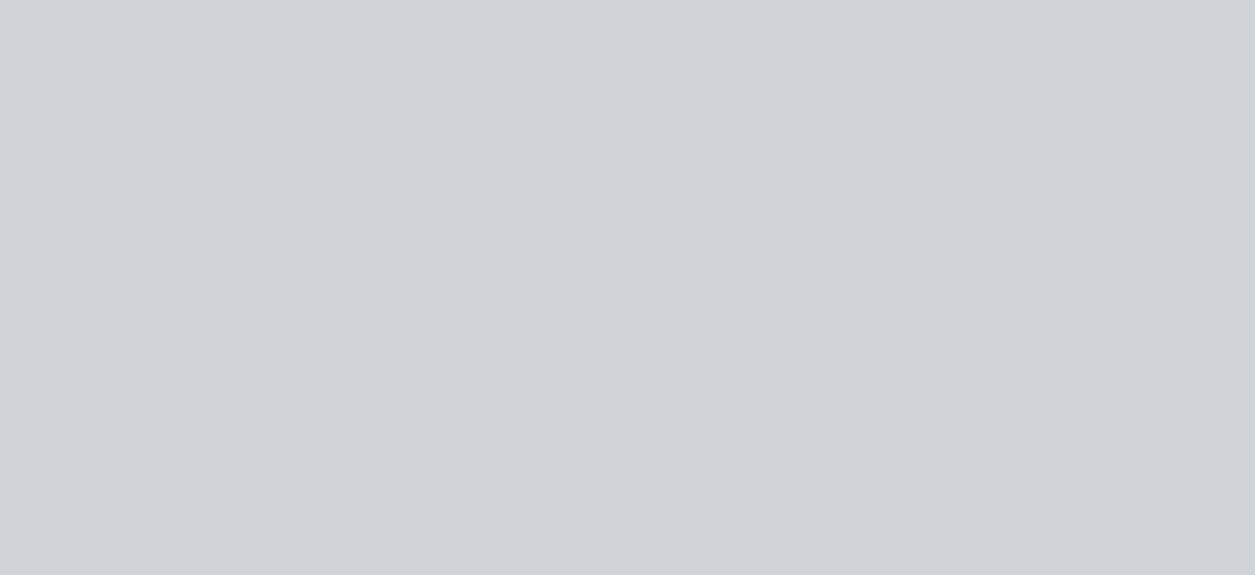
15. Fill in the bubbles to match the equivalent expressions.

| | $4(10+9)$ | $9(5+2)$ | $3(12+7)$ |
|-----------|-------------------------|-------------------------|-------------------------|
| $36 + 21$ | <input type="radio"/> A | <input type="radio"/> B | <input type="radio"/> C |
| $45 + 18$ | <input type="radio"/> D | <input type="radio"/> E | <input type="radio"/> F |
| $40 + 36$ | <input type="radio"/> G | <input type="radio"/> H | <input type="radio"/> I |

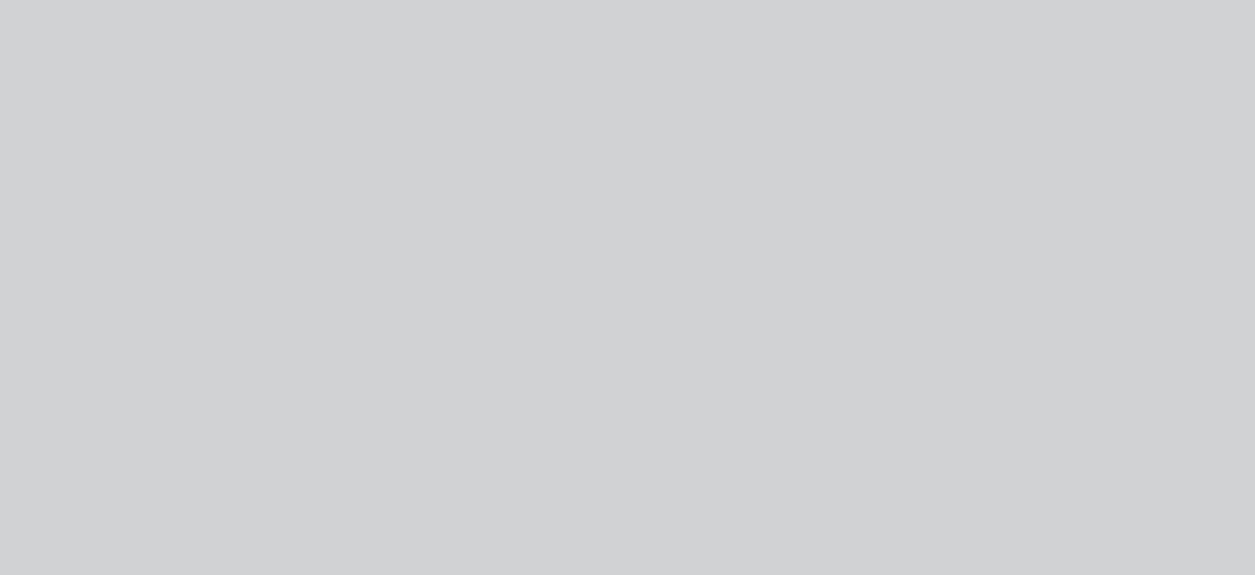


This is the end of Session 1.





Session 2

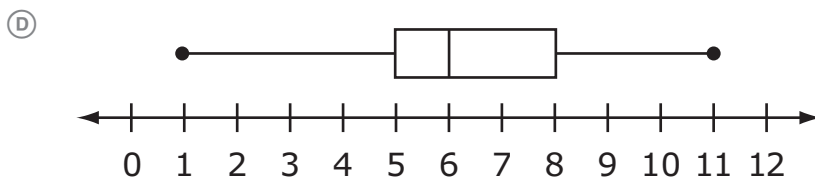
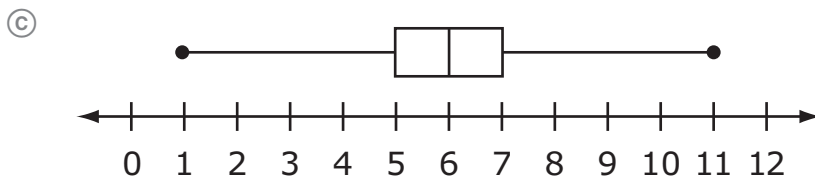
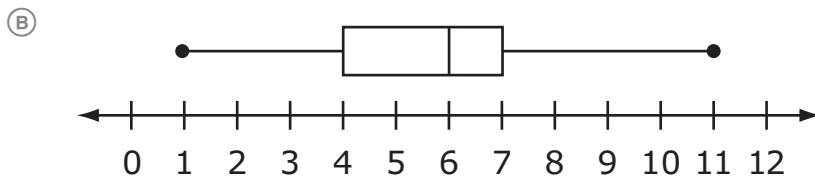
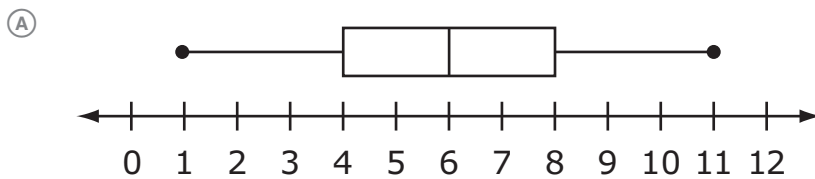


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16. A class survey provides the data shown.

1, 4, 4, 5, 5, 5, 6, 6, 7, 7, 7, 8, 8, 9, 11

Which box plot represents the class?



17. Select all the statements that describe the expression $5 + 2x$.

- Ⓐ The expression represents 5 plus 2 plus x .
- Ⓑ The expression represents 5 plus 2 times x .
- Ⓒ The expression represents 5 plus x plus x .
- Ⓓ The expression represents 5 plus x times x .
- Ⓔ The expression represents the sum of 5 and $2x$.
- Ⓕ The expression represents the product of 5 and $2x$.

18. Tina sells lampshades for \$7 each and paper lanterns for \$4 each at a one-day craft fair. She sells k lampshades and $(k + 4)$ paper lanterns. The expression $7k + 4(k + 4)$ represents Tina's total sales.

Select all the equivalent expressions for Tina's total sales at the fair.

- Ⓐ $8k + 16$
- Ⓑ $11k + 4$
- Ⓒ $11k + 16$
- Ⓓ $7k + 4k + 4$
- Ⓔ $7k + 4k + 16$

19. An expression is shown.

$$590.92 - 219.38$$

What is the value of the expression?

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| - | - | - | - | - | - | - | - |
| / | / | / | / | / | / | / | / |
| • | • | • | • | • | • | • | • |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |

20. Which of the following situations can be represented by this expression?

$$50(b + 3b)$$

(A)

| <i>b</i> is equal to | Situation |
|---------------------------------------|--|
| number of blocks each friend received | Alexi had some blocks. She gave 50 blocks to Manuel and divided the rest evenly among her 3 friends. |

(B)

| <i>b</i> is equal to | Situation |
|------------------------------|---|
| number of blocks in each set | Alexi had 50 blocks. Manuel gave her 1 set of blocks, and she bought 3 more sets of blocks. |

(C)

| <i>b</i> is equal to | Situation |
|-----------------------------|--|
| a set of blocks | Manuel and Alexi bought some blocks. Manuel bought 50 sets of blocks. Alexi bought 4 times as many sets as Manuel. |

(D)

| <i>b</i> is equal to | Situation |
|-----------------------------|---|
| a set of blocks | Manuel and Alexi bought sets of 50 blocks. Alexi bought 3 times as many sets as Manuel. |

21. In a circle, which ratio is equivalent to π ?

- Ⓐ radius to area
- Ⓑ diameter to radius
- Ⓒ area to circumference
- Ⓓ circumference to diameter

22. This question has **two** parts.

Jayesh determines that he needs to sell more than \$200 worth of fruit at his produce stand in order to make a profit.

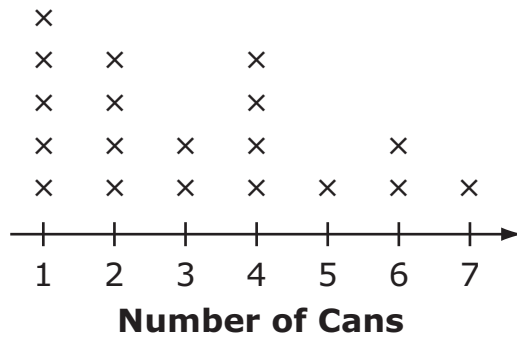
Part A. Which inequality represents the fruit sales, s , in dollars, for which Jayesh will make a profit?

- (A) $s < 150$
- (B) $s < 200$
- (C) $s > 200$
- (D) $s > 250$

Part B. Which number line models all fruit sales, in dollars (\$), for which Jayesh will make a profit?



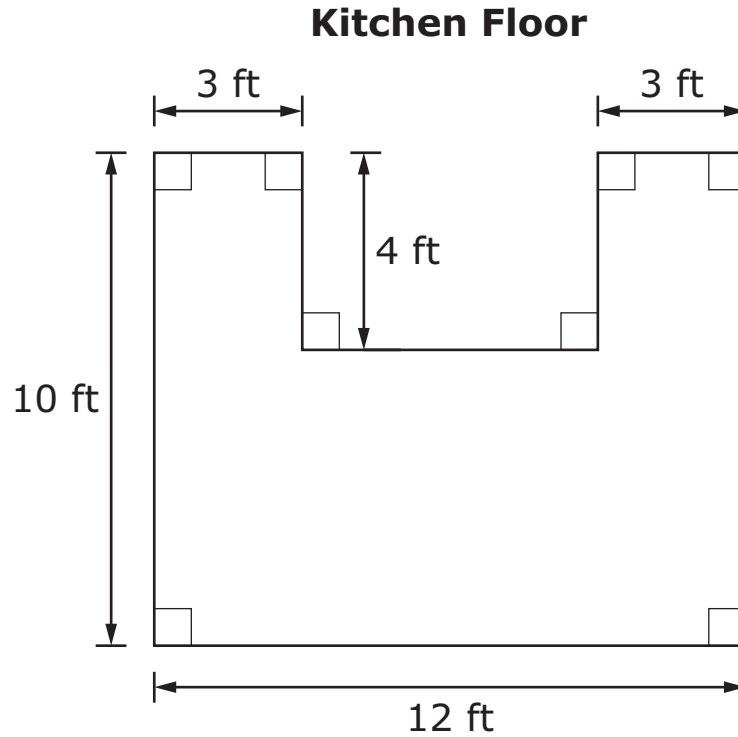
23. A line plot shows the number of cans a class of students at Epping Middle School collected for a canned food drive.



How many students collected cans of food?

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| - | - | - | - | - | - | - |
| / | / | / | / | / | / | / |
| • | • | • | • | • | • | • |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 |

24. Mr. Hilton is buying new tile for his kitchen floor. The dimensions, in feet (ft), of the kitchen floor are shown.



What is the area, **in square feet**, of Mr. Hilton's kitchen floor?

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| - | - | - | - | - | - | - |
| / | / | / | / | / | / | / |
| . | . | . | . | . | . | . |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 |

25. Linda recorded the number of minutes she practiced playing her violin for 10 days. The table shown represents the data she collected.

| Day | Minutes Practiced |
|-----|-------------------|
| 1 | 20 |
| 2 | 30 |
| 3 | 40 |
| 4 | 38 |
| 5 | 25 |
| 6 | 22 |
| 7 | 39 |
| 8 | 22 |
| 9 | 26 |
| 10 | 31 |

A. According to the data, what is the average amount of time Linda spent practicing per day?

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---------|
| | | | | | | | | minutes |
| ⊖ | ⊖ | ⊖ | ⊖ | ⊖ | ⊖ | ⊖ | ⊖ | |
| | / | / | / | / | / | / | | |
| • | • | • | • | • | • | • | • | |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | |

B. What is Linda’s variation among all 10 days?

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| - | - | - | - | - | - | - | - |
| / | / | / | / | / | / | / | / |
| . | . | . | . | . | . | . | . |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |

minutes

- 26.** Chicago, Illinois, has an elevation of 600 feet above sea level. The elevation of Desert Shores, California, is 800 feet less than the elevation of Chicago.

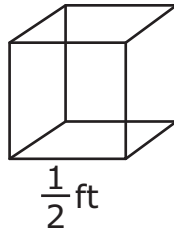
Select all options that apply to Desert Shores.

- Ⓐ elevation of -200 feet
- Ⓑ elevation of 200 feet
- Ⓒ below sea level
- Ⓓ at sea level
- Ⓔ above sea level

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27. Alex has 64 cubes, with dimensions in feet (ft), like the one shown.



He uses all the cubes to fill a box shaped like a larger rectangular prism. There are no gaps between the cubes.

A. What is the volume, in cubic feet, of the larger rectangular prism?

Volume =

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| ⊖ | ⊖ | ⊖ | ⊖ | ⊖ | ⊖ | ⊖ | ⊖ |
| ∕ | ∕ | ∕ | ∕ | ∕ | ∕ | ∕ | ∕ |
| ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |

B. What is a possible set of dimensions, in feet, of the larger rectangular prism?

Length =

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| - | - | - | - | - | - | - | - |
| / | / | / | / | / | / | / | / |
| . | . | . | . | . | . | . | . |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |

Width =

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| - | - | - | - | - | - | - | - |
| / | / | / | / | / | / | / | / |
| . | . | . | . | . | . | . | . |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |

Height =

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| - | - | - | - | - | - | - | - |
| / | / | / | / | / | / | / | / |
| . | . | . | . | . | . | . | . |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |

- 28.** Tim drives the Grand Avenue bus route. He records the total number of passengers each week for 4 weeks.

The mean and mean absolute deviation of the data are shown.

- Mean: 17,123
- Mean absolute deviation: 611

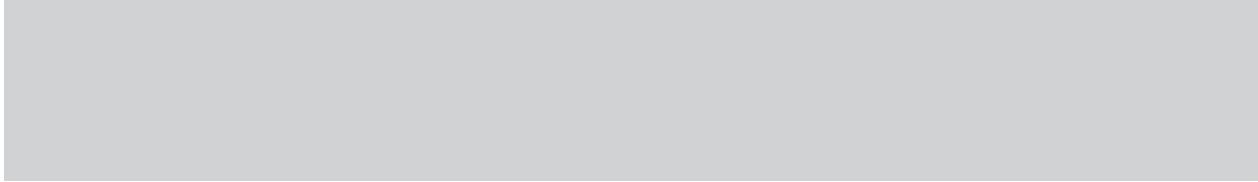
Select all the possible numbers of riders for week 5 that are within the mean absolute deviation.

- Ⓐ 16,297
- Ⓑ 16,809
- Ⓒ 17,724
- Ⓓ 17,956
- Ⓔ 18,013

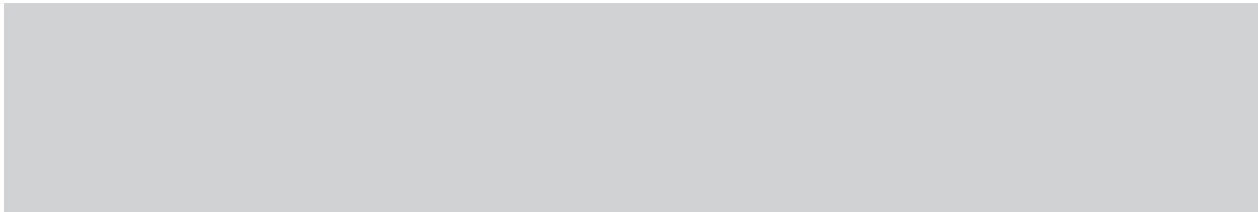
29. The points $(4, -6)$ and $(9, -6)$ represent the location of two towns on a coordinate grid, where one unit is equal to one mile.

What is the distance, in miles, between the two towns?

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| - | - | - | - | - | - | - | - |
| / | / | / | / | / | / | / | / |
| . | . | . | . | . | . | . | . |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |



This is the end of Session 2.



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