Math

Spring 2019

Grade 4

Released Items

1. **0217-M00823P**

Marcy and her friends recorded how long it took each of them to read the same book. Their results are shown in the table.

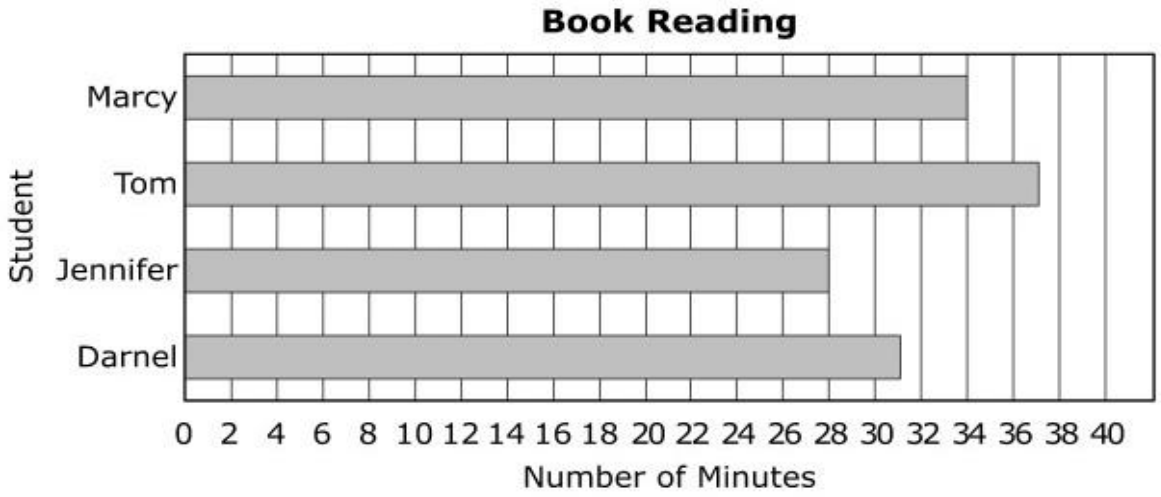
Book Reading

Name	Number of Minutes
Marcy	35
Tom	37
Jennifer	28
Darnel	31

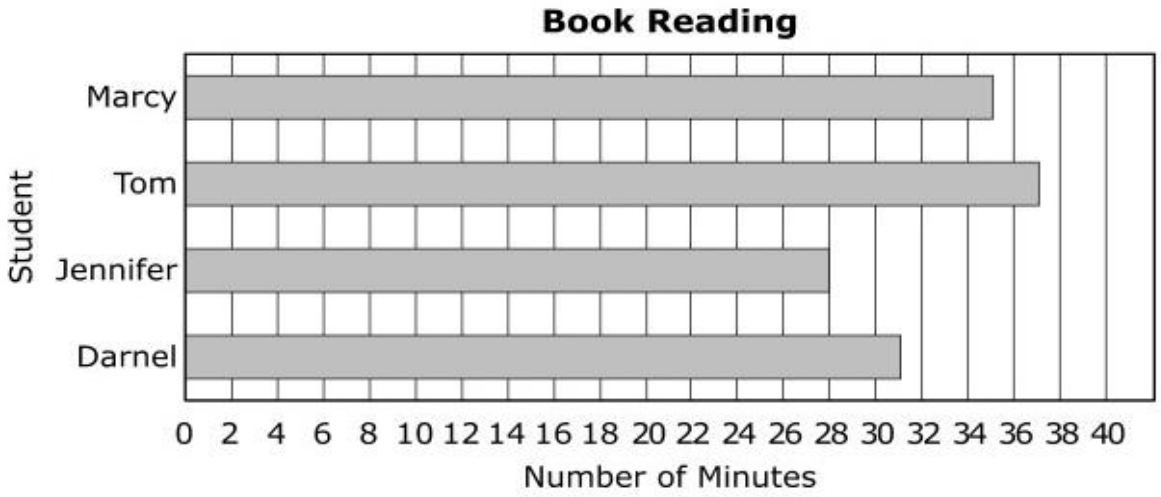
Part A

Marcy wants to record data on a bar graph. Which bar graph correctly shows the length of time each student read?

A.



B.



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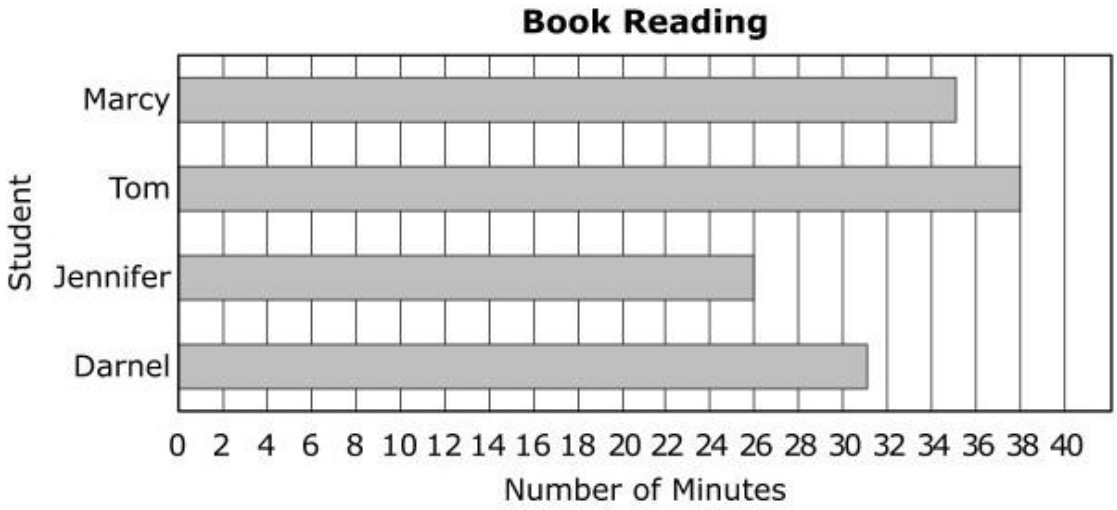
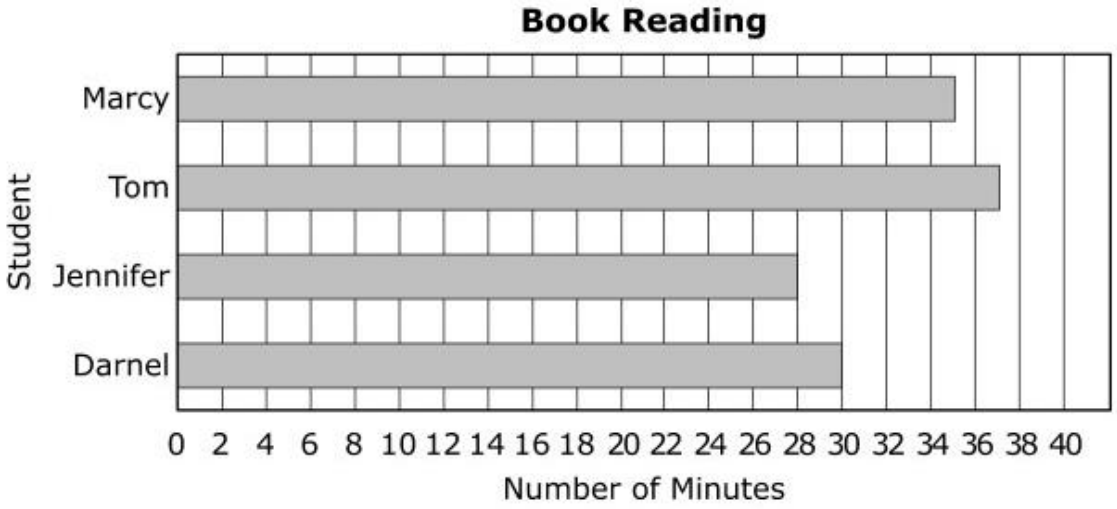
C.



D.



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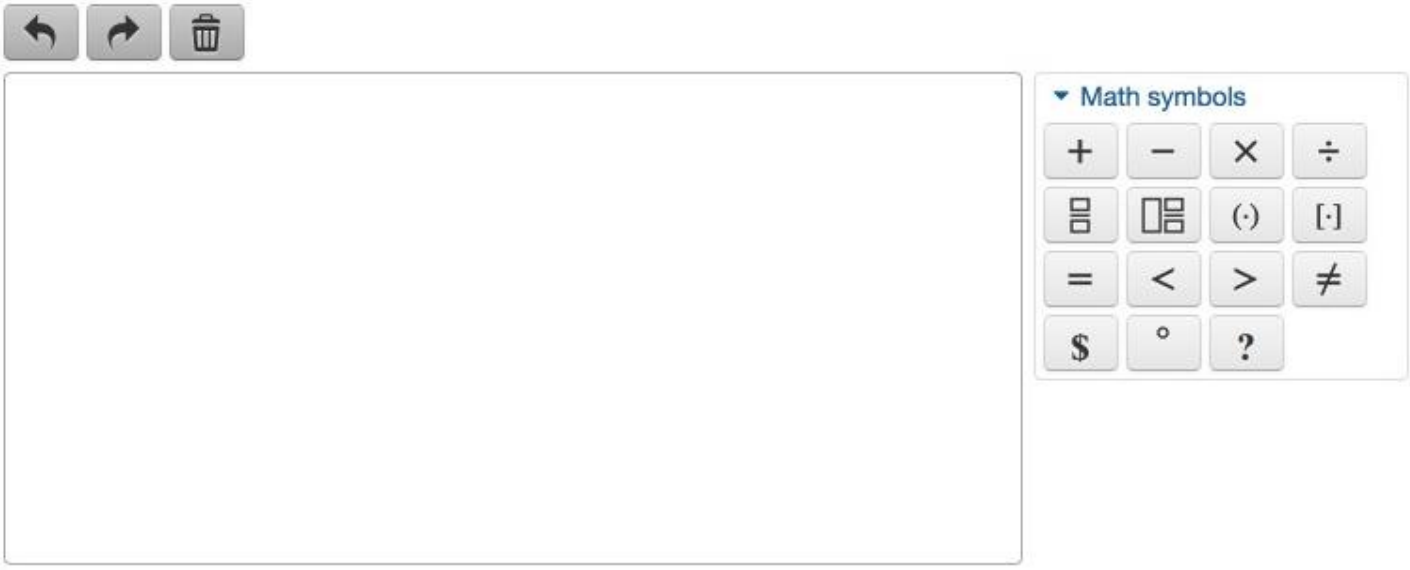
Part B

Explain how Marcy selected where the ends of the bars for Tom and Darnel should be.

Enter your explanation in the space provided.

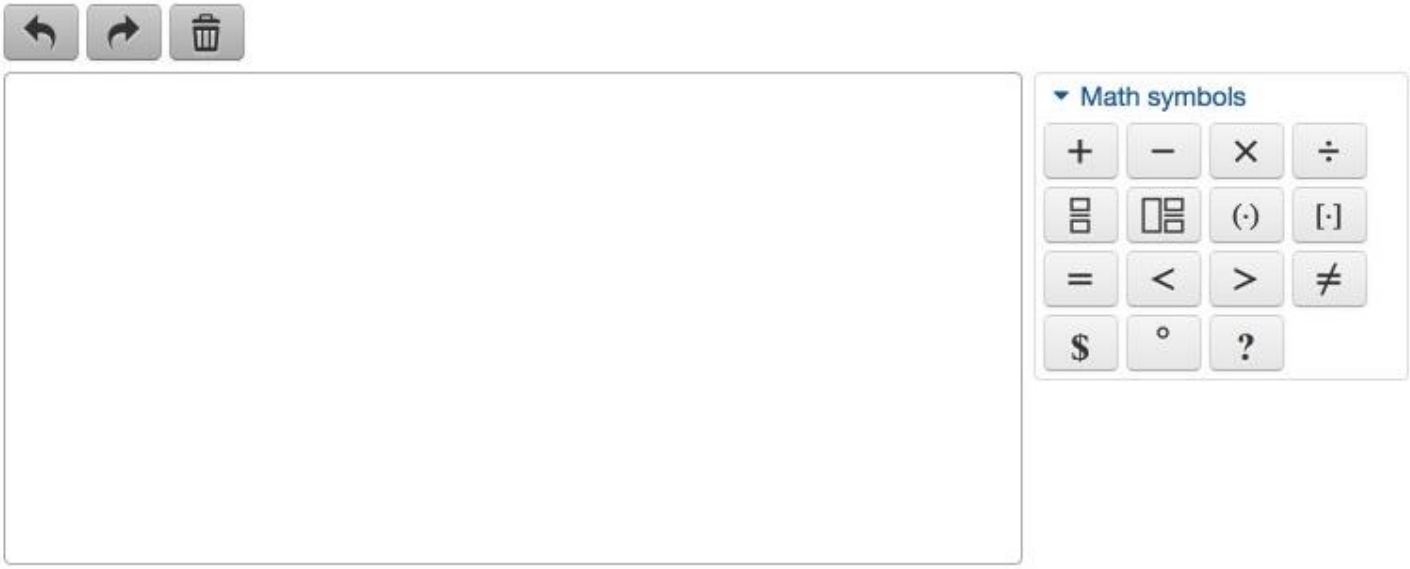


Part C

How many more minutes did Marcy and Tom read together than Jennifer and Darnel read together?

Show the work you used to find out how many more minutes it took Marcy and Tom to read the book than it did for Jennifer and Darnel to read the book.

Enter your answer and your work in the space provided.



2. **M03302**

Which equations are true?

Select the **four** correct answers.

- ☐ A. $\frac{3}{4} = \frac{6}{8}$
- ☐ B. $\frac{4}{6} = \frac{10}{12}$
- ☐ C. $\frac{2}{3} = \frac{8}{12}$
- ☐ D. $\frac{8}{8} = \frac{5}{5}$
- ☐ E. $\frac{2}{5} = \frac{4}{10}$
- ☐ F. $\frac{1}{4} = \frac{5}{8}$

3. **M01103**

There are nine hundred eighty-five thousand, four hundred five people who watched a recent video on the Internet.

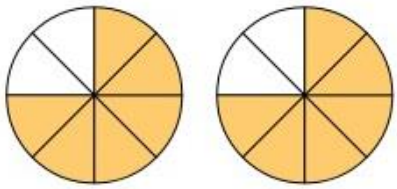
Which number is greater than the number of people who watched the video?

- ○ A. 98,545
- ○ B. 908,545
- ○ C. 985,405
- ○ D. 985,450

4. **M400293**

Part A

A pair of fraction models is given.



Which explanation is a correct reasoning for the sum of the shaded parts?

A. Each model shows $\frac{6}{8}$ shaded, so the sum is $\frac{26}{8}$.

B. Each model shows $\frac{6}{8}$ shaded, so the sum is $2\frac{6}{8}$.

C. Each model is divided into 8 parts. There are 12 total parts shaded, so the sum is $\frac{12}{8}$.

D. Each model is divided into 8 parts. There are 12 total parts shaded, so the sum is $1\frac{2}{8}$.

Part B

Each shape is equal in size and is divided into 5 equal parts.

- Explain one possible way to shade the three shapes to represent a total of $\frac{7}{5}$. In your explanation, at least one part of each shape must be shaded. Explain why your shading is correct.
- One shape is removed. Explain how to decompose $\frac{7}{5}$ into the sum of two fractions. Give an example in the form of $\frac{\square}{\square}+\frac{\square}{\square}=\frac{7}{5}$, and explain how the two remaining shapes would be shaded.

Enter your explanations in the space provided.

Math symbols

+	−	×	÷
$\frac{\square}{\square}$	$\square\frac{\square}{\square}$	(·)	[·]
=	<	>	≠
$	°	?	

5. **M400122**

The value of the digit 9 in 1,946 is how many times the value of the digit 9 in 4,092?

Enter your answer in the box.

6. **M20627**

A group of 7 friends is planning a hike. Each friend will need $\frac{3}{5}$ of a gallon of water to drink during the hike. How many gallons of water will the group need for the hike?

A. $\frac{3}{35}$

B. $4\frac{1}{5}$

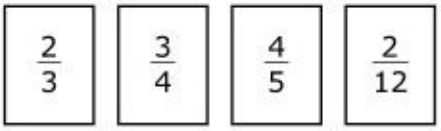
C. $7\frac{3}{5}$

D. $11\frac{2}{3}$

7. **0118-M00640P**

Part A

A student selected four fraction cards. The student is sorting the cards into three groups: those that were less than $\frac{4}{6}$, those that were equal to $\frac{4}{6}$, and those that were greater than $\frac{4}{6}$.



Which fraction is equal to $\frac{4}{6}$?

- A. $\frac{2}{3}$
- B. $\frac{3}{4}$
- C. $\frac{4}{5}$
- D. $\frac{2}{12}$

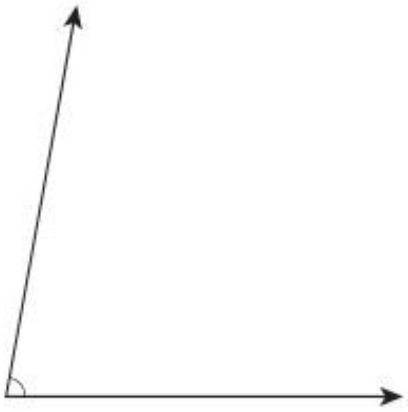
Part B

The student wants to compare some of the fractions on the cards. Which comparison is true?

- A. $\frac{4}{5} < \frac{4}{6}$
- B. $\frac{3}{4} < \frac{4}{6}$
- C. $\frac{2}{3} < \frac{4}{6}$
- D. $\frac{2}{12} < \frac{4}{6}$

8. **M400484**

What is the measure, in degrees, of the angle?



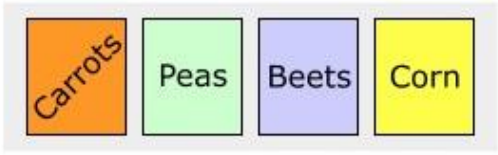
Enter your answer in the box.

9. **0216-M00278**

Part A

A community garden is divided into 10 equal sections. Carrots are planted in $\frac{5}{10}$ of the garden and peas are planted in $\frac{1}{10}$ of the garden. The rest of the garden is planted with beets and corn. More of the garden is planted with beets than corn. Find the number of sections of carrots, peas, beets, and corn that were planted.

Drag and drop the correct number of vegetable sections to build the garden.

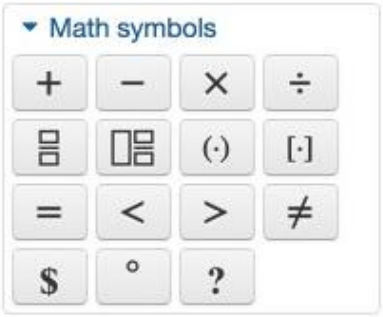


Community Garden

Part B

What fraction of the garden is planted only with beets? Show your work or explain your answer using equations.

Enter your answer and your work or explanation in the space provided.



10. **M400439D**

Part A

Describe how to show the sum $\frac{3}{8} + \frac{2}{8}$ on the number line shown.

Select from the drop-down menus to correctly complete each sentence.

Divide the segment of the number line between 0 and 1 into [Choose...] equal parts. Starting at 0,

- 3
- 5
- 8
- 10

shade the first [Choose...] part(s). Then shade the next [Choose...] parts to show the sum $\frac{3}{8} + \frac{2}{8}$.

- 1
- 3
- 5
- 8

- 2
- 3
- 5

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Part B

The number line shown can be used to model the expression $\frac{7}{10} - \frac{3}{10}$.

- To model the expression, how many parts should the segment of the number line between 0 and 1 be divided into? Explain your answer.
- Describe each of the remaining steps needed to model the expression.
- What is the value of the expression?

Enter your answers, your explanation, and your description in the space provided. You may use the drawing box to add a drawing to help explain your answer.

Math symbols

Drawing Box

11. **M400542**

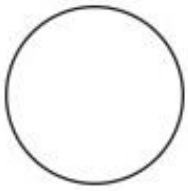
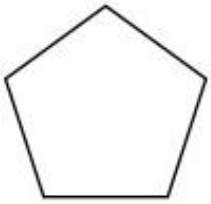
A pattern has the rule “add 4” and starts with the number 2013. What are the next three numbers in the pattern?

- A. 2017, 2021, 2025
- B. 2017, 2022, 2028
- C. 2018, 2022, 2026
- D. 2018, 2023, 2029

12. **M00928**

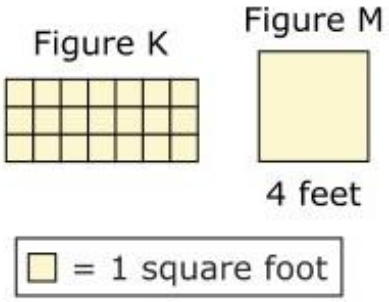
Which figures have exactly 1 line of symmetry?

Select the **two** correct answers.

- ☐ A. 
- ☐ B. 
- ☐ C. 
- ☐ D. 
- ☐ E. 

13. **0233-M01161**

Figure K is covered with square tiles each measuring 1 square foot. There are no gaps or overlaps in the tiles. Figure M is a square with side lengths of 4 feet.

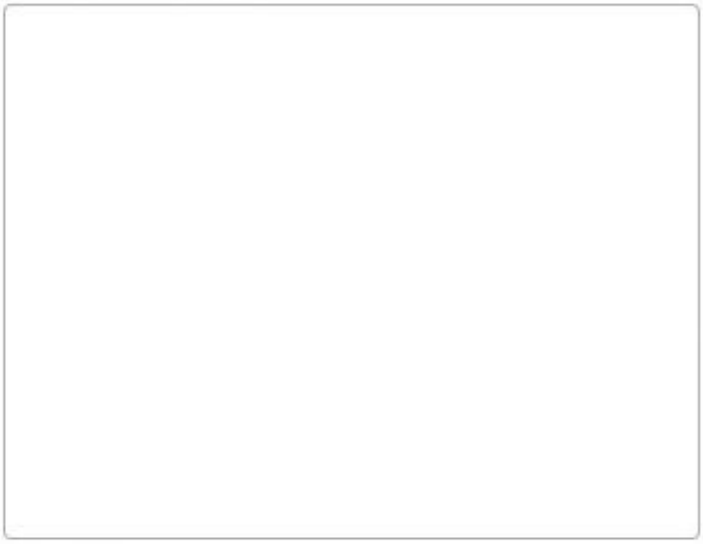


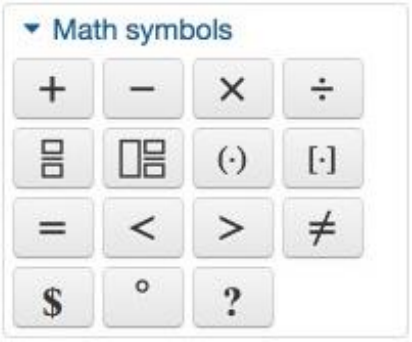
Part A

Joan said the area of Figure K is found by adding $3 + 7 + 3 + 7$, so the area is 20 square feet. Joan made a mistake in her reasoning.

Explain the mistake Joan made. Find the correct area for Figure K.

Enter your explanation and your answer in the space provided.





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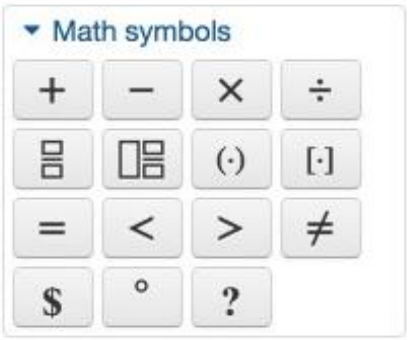
Part B

Figures K and M are pushed together to form a larger figure. There are no gaps or overlaps of the two figures. To find the area of the larger figure, Andy multiplied the area of Figure K by the area of Figure M. Andy is incorrect in his reasoning.

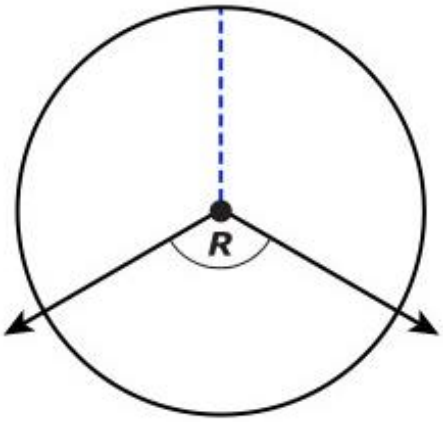
- Explain the steps Andy should take to find the area of the larger figure.
- What is the area, in square feet, of the larger figure?
- Show your work or explain your answers.

Enter your explanation, your answer, and your work or explanation in the space provided.



14. **M03537**

Angle R turns through $\frac{1}{3}$ of the circle as shown.

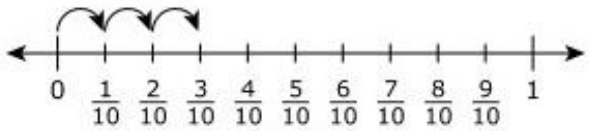


What is the measure, in degrees, of angle R?

Enter your answer in the box.

15. **VH006692**

A number line model is shown.



Select the **two** expressions that are represented by the number line model.

- A. $3 + \frac{1}{10}$
- B. $3 \times \frac{1}{10}$
- C. $\frac{3}{10} + \frac{1}{10}$
- D. $\frac{3}{10} \times \frac{1}{10}$
- E. $\frac{1}{10} + \frac{1}{10} + \frac{1}{10}$
- F. $\frac{1}{10} + \frac{2}{10} + \frac{3}{10}$

16. **M03056**

Select each statement that can be represented by the equation $11 \times 32 = 352$.

Select the **two** correct statements.

- [ ] A. 352 is 32 more than 11.
- [ ] B. 352 is 32 times as many as 11.
- [ ] C. 352 equals 11 times as many as 32.
- [ ] D. 352 is 11 more than 32.
- [ ] E. 352 multiplied by 11 is the same as 32.