

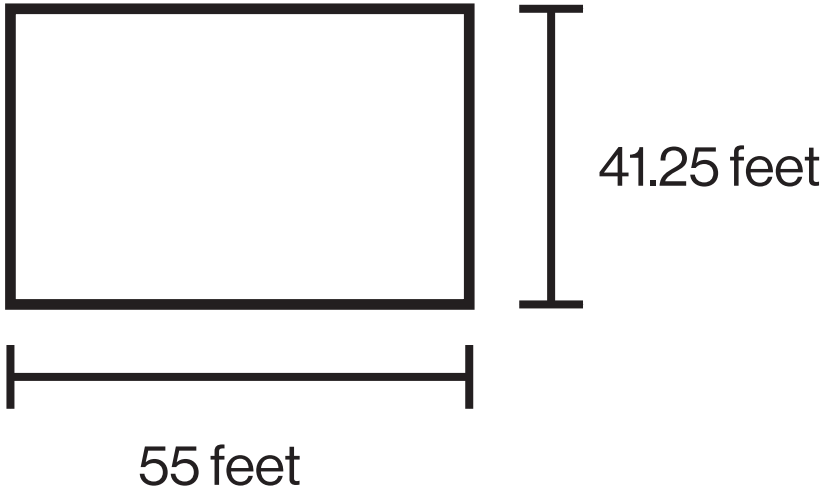
Similarity and Proportionality Practice

Name: _____

Date: _____

Question 1

For the rectangle, write the ratio of the width to the perimeter



Question 2

Draw a triangle that satisfies the extended ratio comparing angles

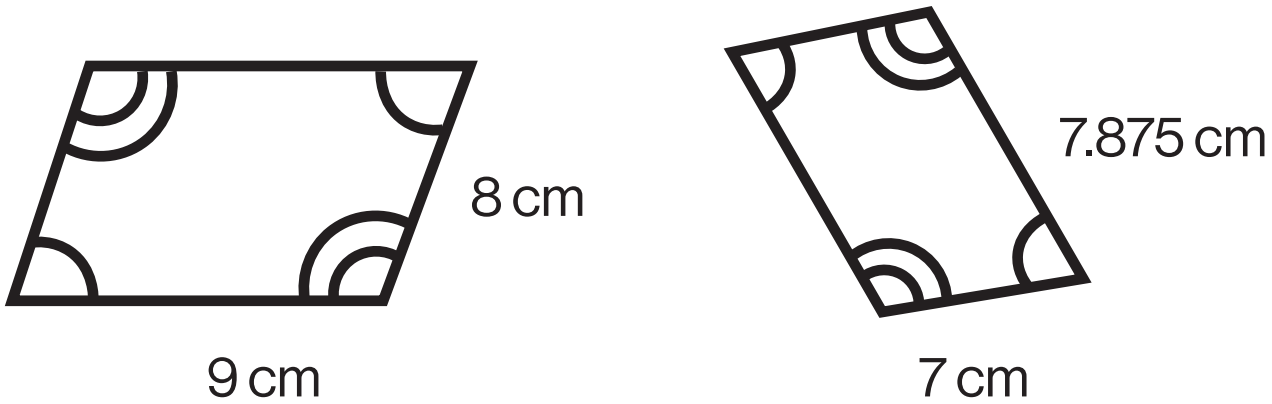
4:4:1

Similarity and Proportionality Practice

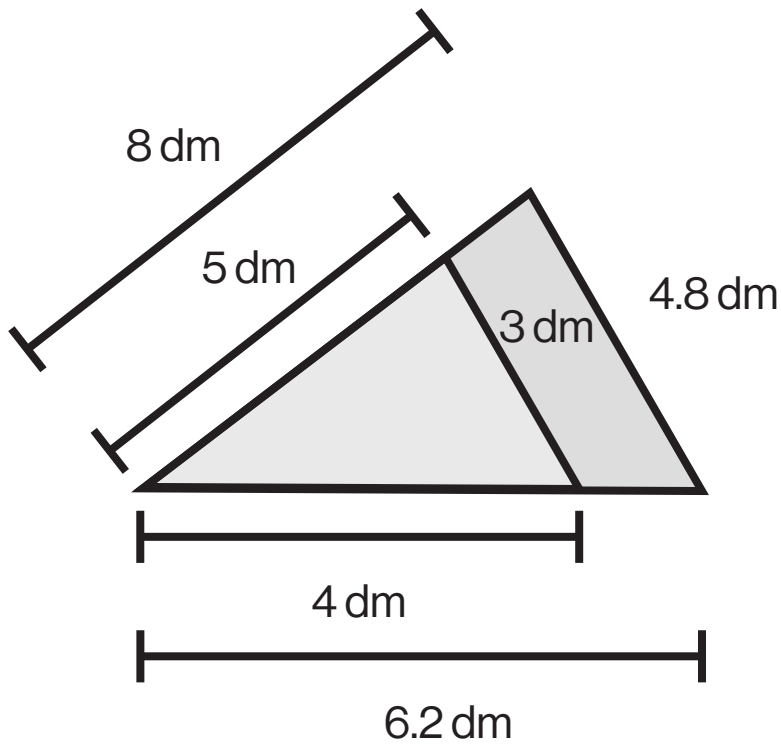
Question 3

Determine if the polygons are similar

I.

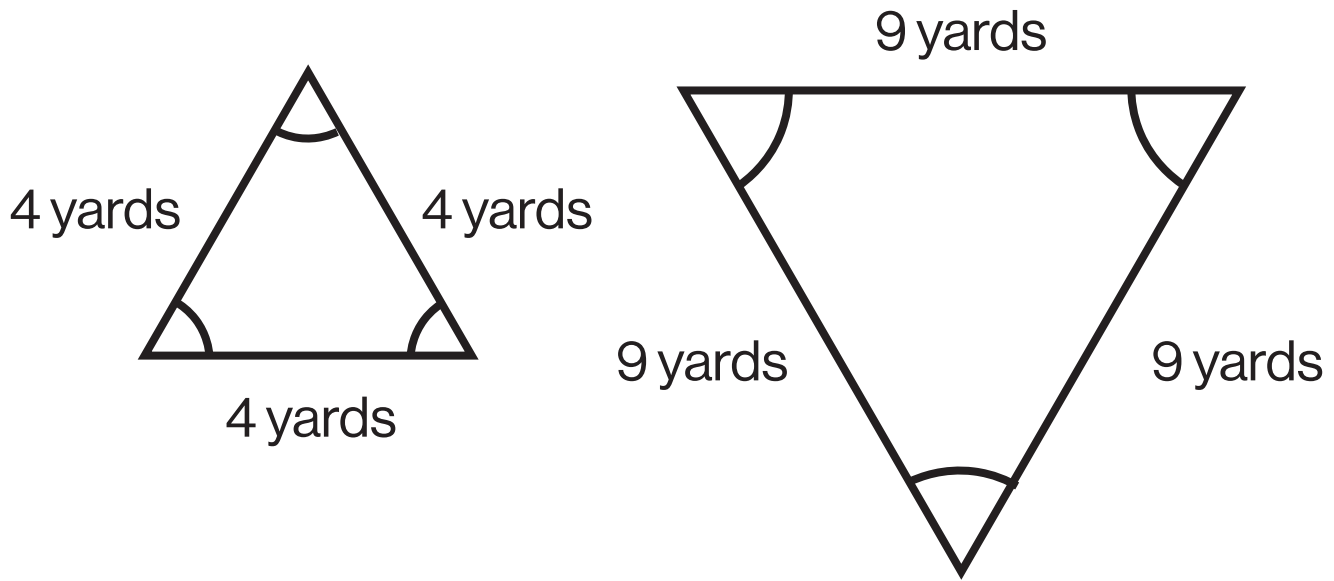


II.

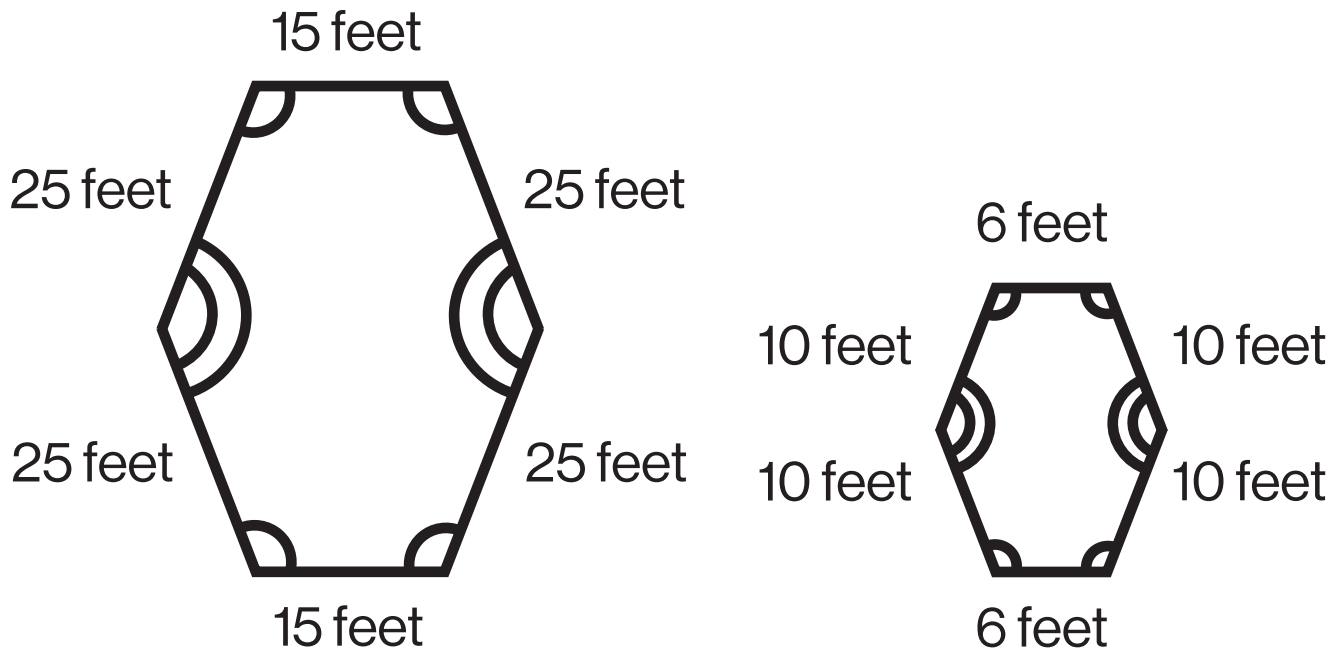


Similarity and Proportionality Practice

III.

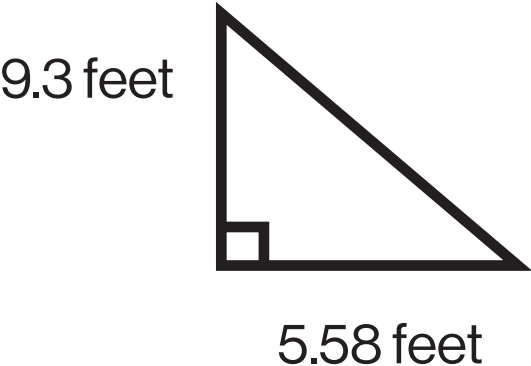
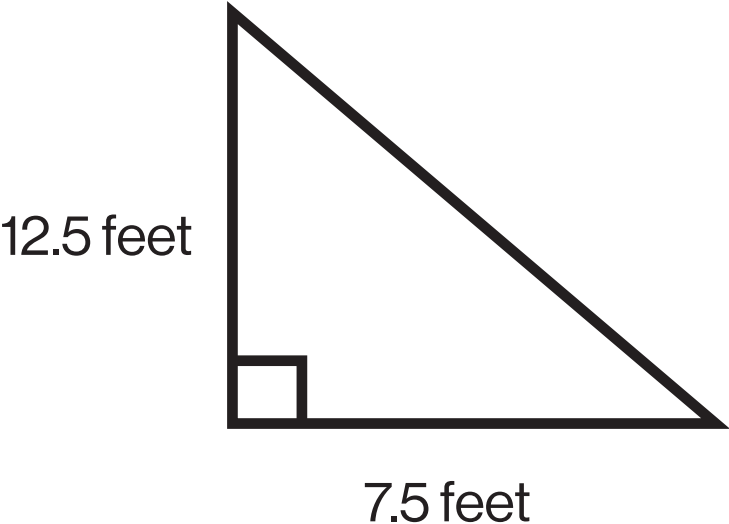


IV.

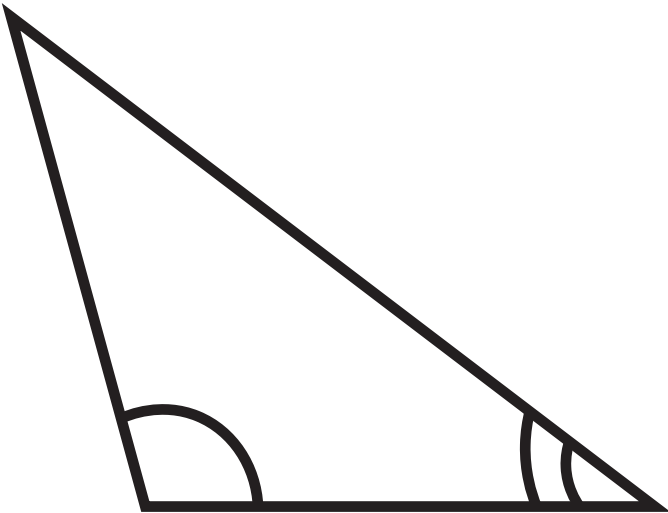
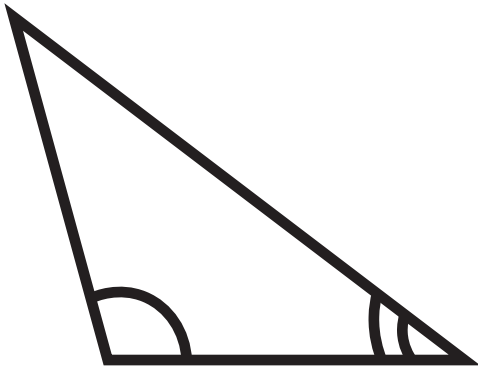


Similarity and Proportionality Practice

V.

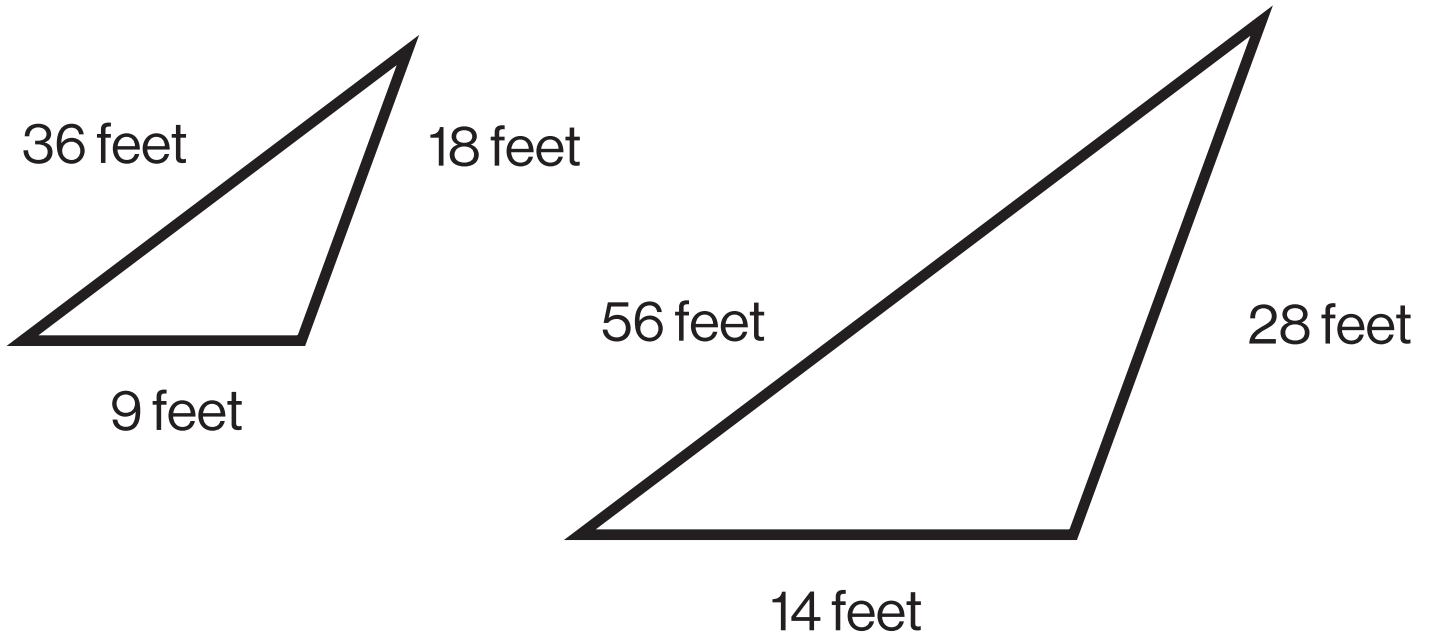


VI.



Similarity and Proportionality Practice

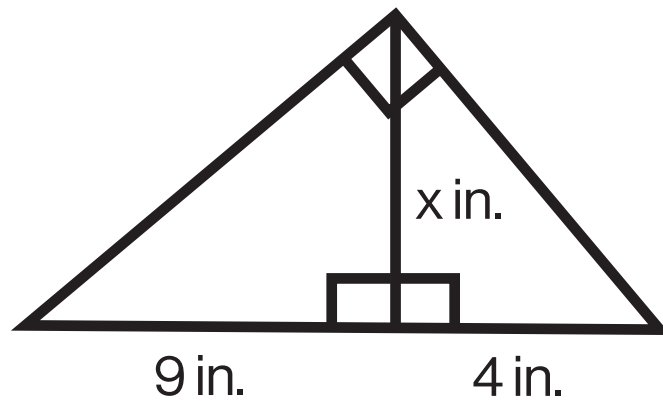
VII.



Question 3

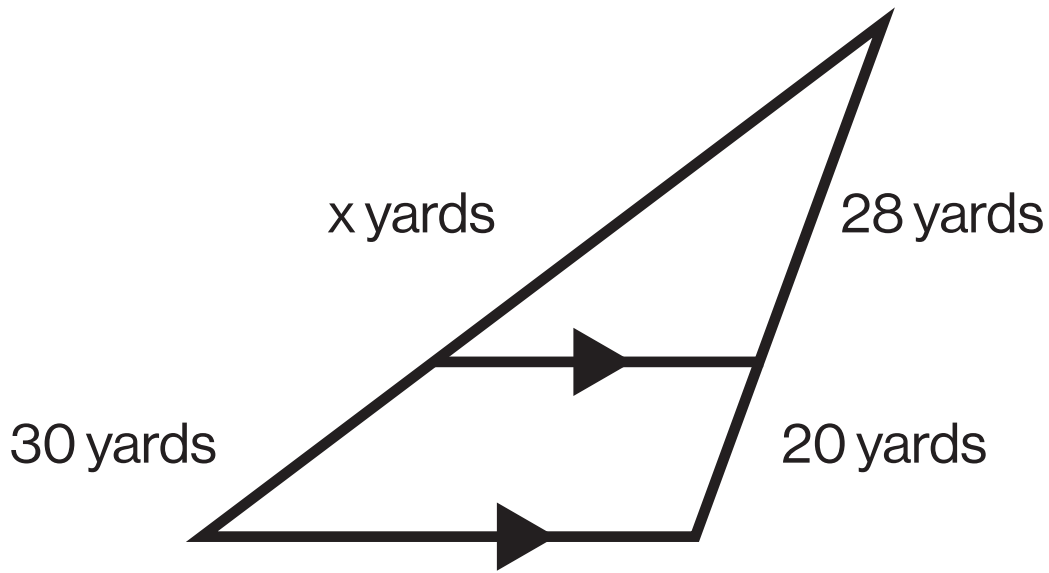
Determine the value of the variable

I.

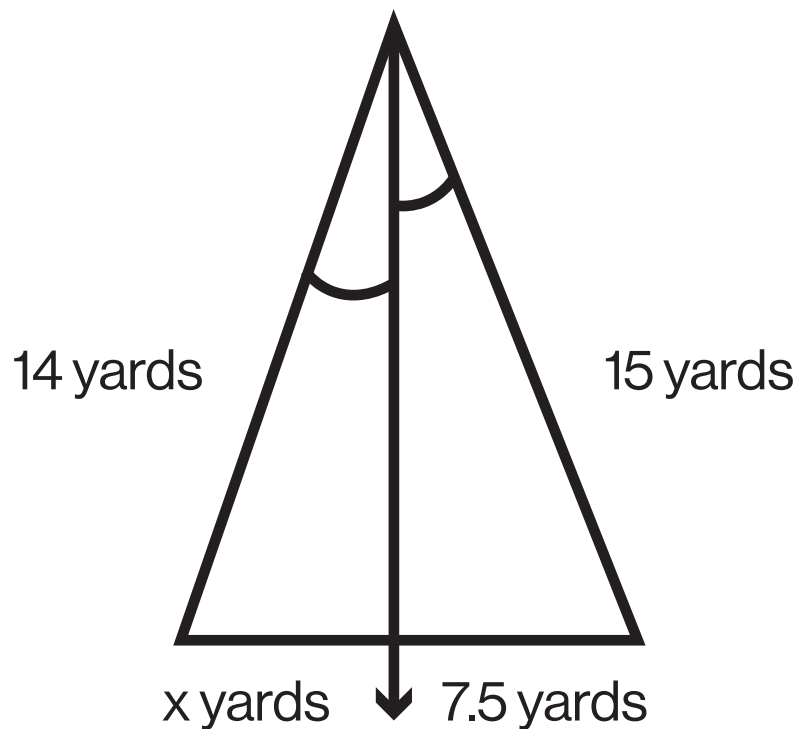


Similarity and Proportionality Practice

II.



III.



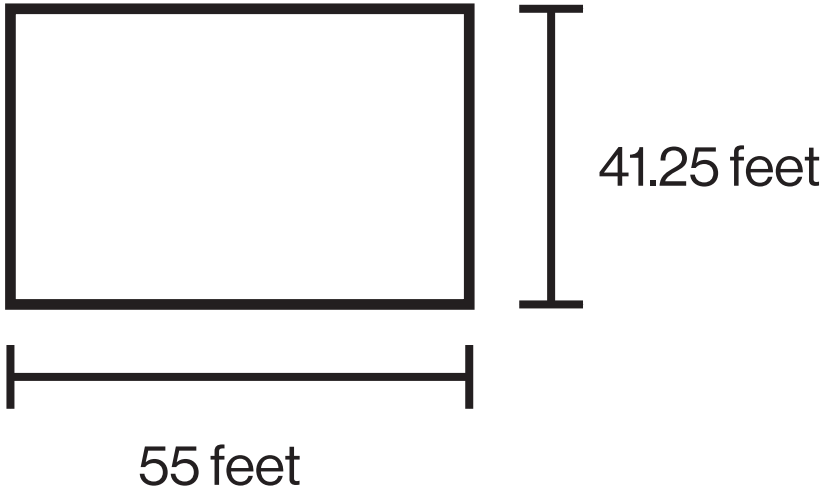
Similarity and Proportionality Practice

Name: _____ **Key** _____

Date: _____

Question 1

For the rectangle, write the ratio of the width to the perimeter



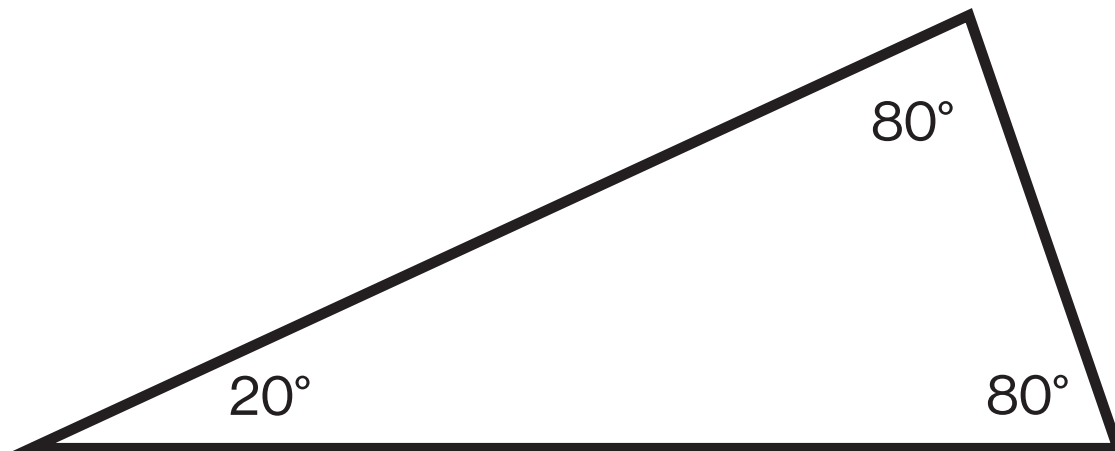
$$\text{perimeter: } 2 \cdot (55 + 41.25) = 192.5$$

$$\frac{41.25 \text{ feet}}{192.5 \text{ feet}}$$

Question 2

Draw a triangle that satisfies the extended ratio comparing angles

4:4:1

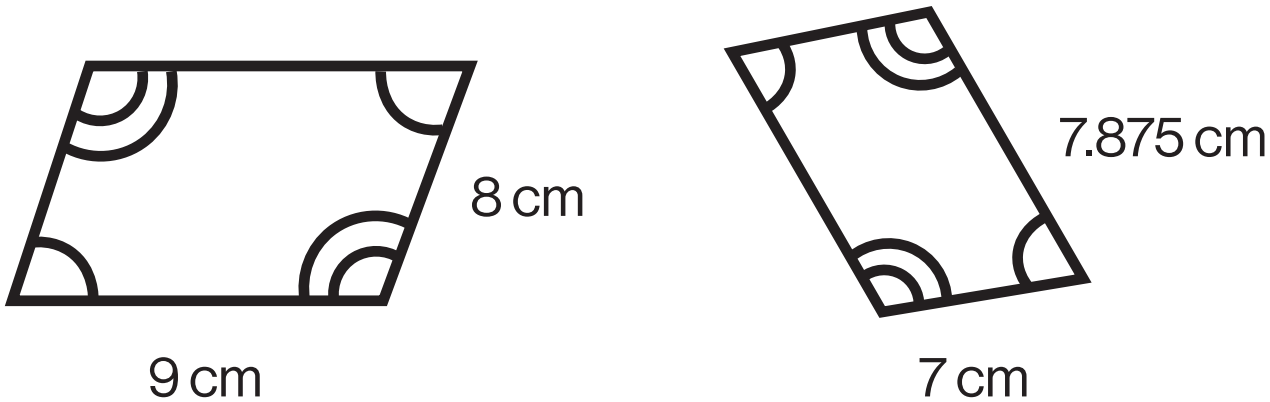


Similarity and Proportionality Practice

Question 3

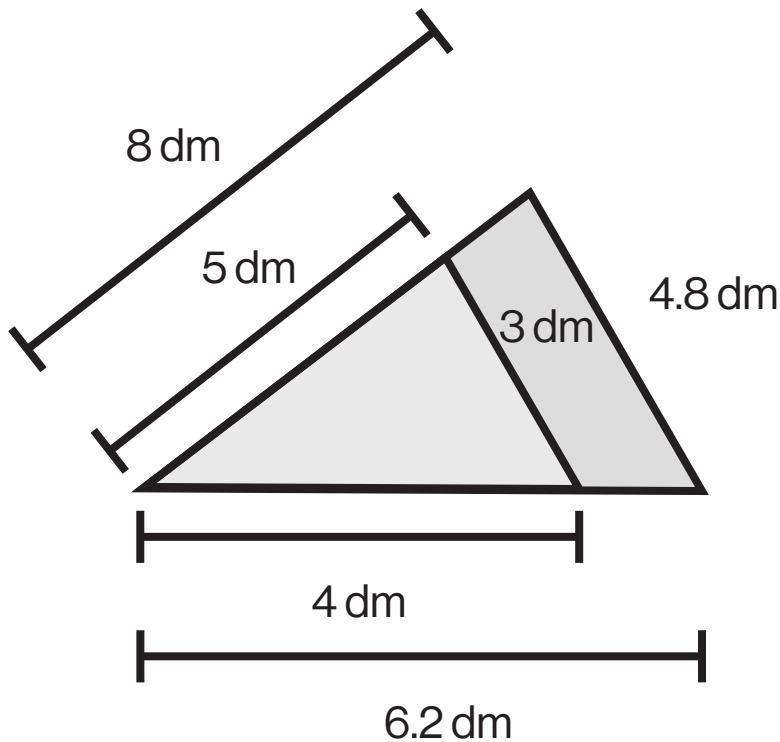
Determine if the polygons are similar

I.



$$\frac{8 \text{ cm}}{7 \text{ cm}} \neq \frac{9 \text{ cm}}{7.875 \text{ cm}} \quad \begin{array}{l} 7.875 \cdot 8 = 63 \quad \checkmark \\ 9 \cdot 7 = 63 \quad \checkmark \end{array} \quad \text{similar}$$

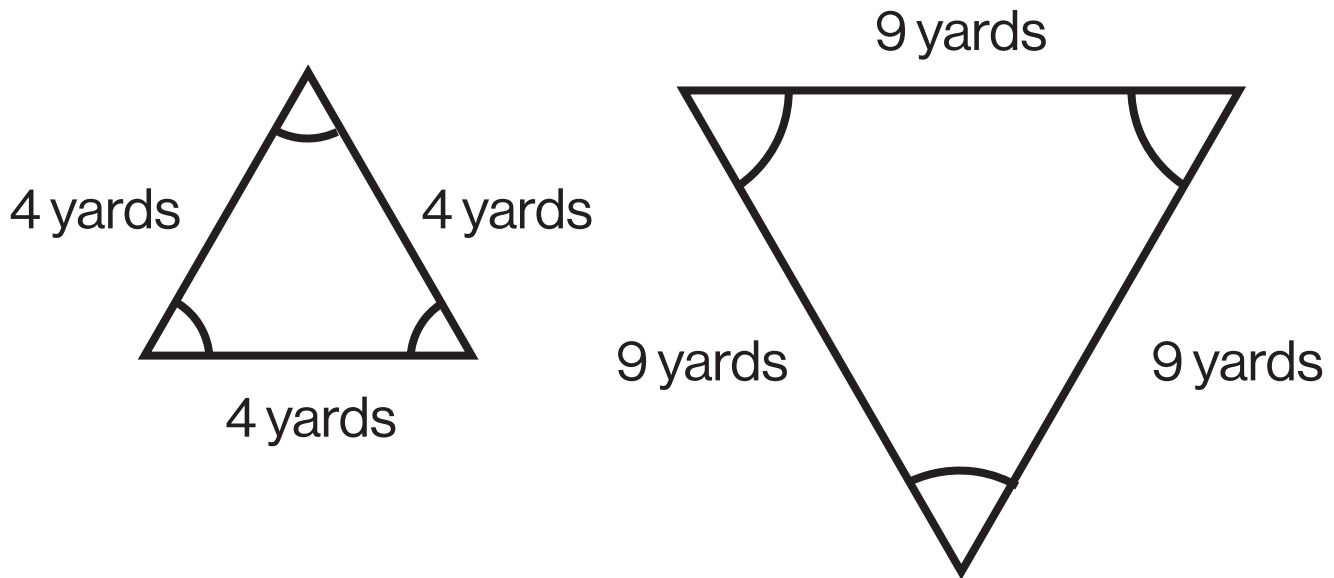
II.



$$\begin{array}{ccc} \frac{5 \text{ dm}}{8 \text{ dm}} & = & \frac{4 \text{ dm}}{6.2 \text{ dm}} = \frac{3 \text{ dm}}{4.8 \text{ dm}} \\ \downarrow & & \downarrow \quad \downarrow \\ 0.625 \text{ dm} & \sim 0.645 \text{ dm} & 0.625 \text{ dm} \\ \checkmark & \times & \checkmark \\ & \text{not similar} & \end{array}$$

Similarity and Proportionality Practice

III.

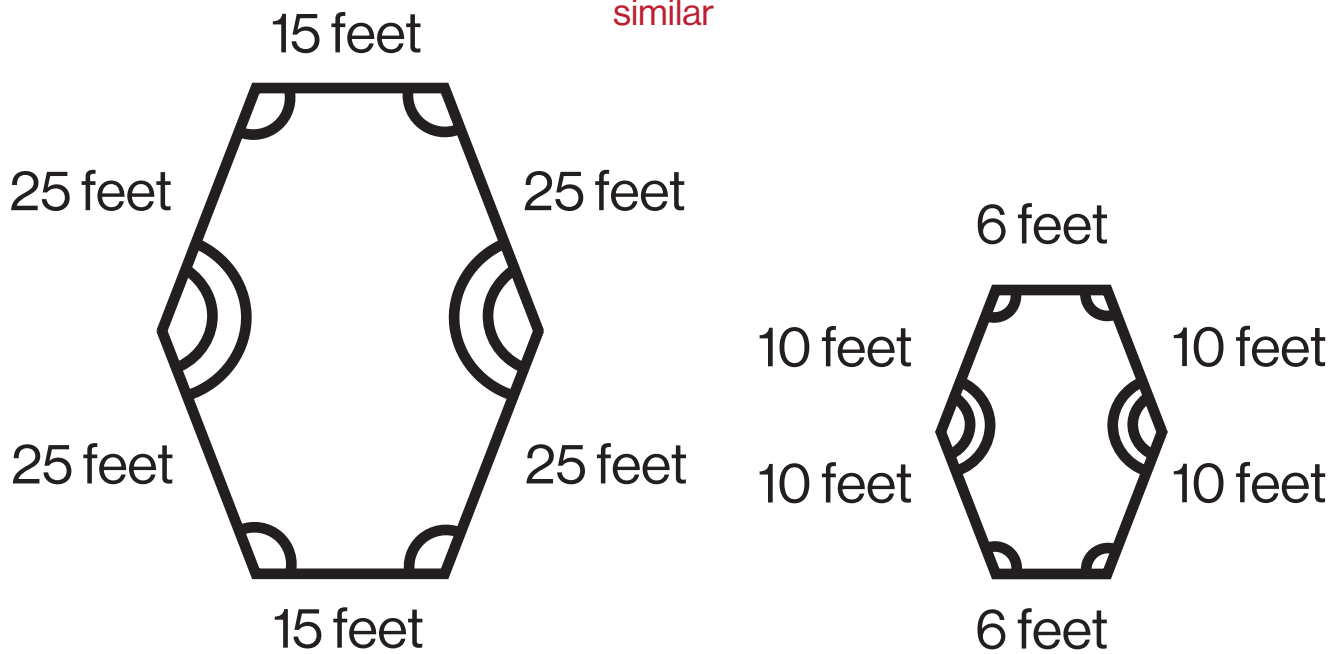


$$\frac{4 \text{ yd}}{9 \text{ yd}} = \frac{4 \text{ yd}}{9 \text{ yd}} = \frac{4 \text{ yd}}{9 \text{ yd}}$$

✓
✓
✓

similar

IV.



$$\frac{6 \text{ feet}}{15 \text{ feet}} \neq \frac{10 \text{ feet}}{25 \text{ feet}}$$

$$15 \cdot 10 = 150$$

✓

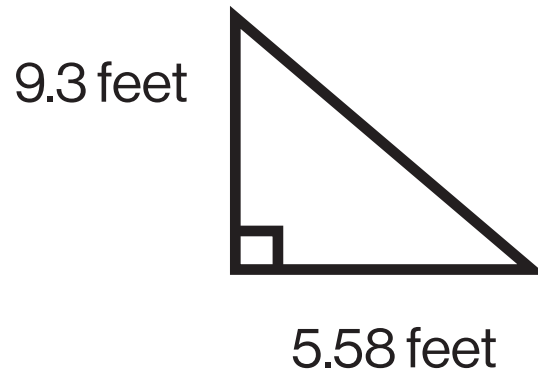
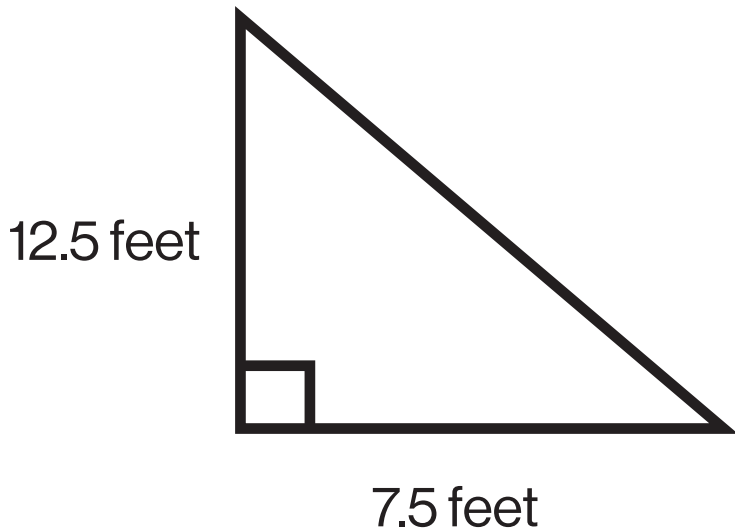
$$6 \cdot 25 = 150$$

✓

similar

Similarity and Proportionality Practice

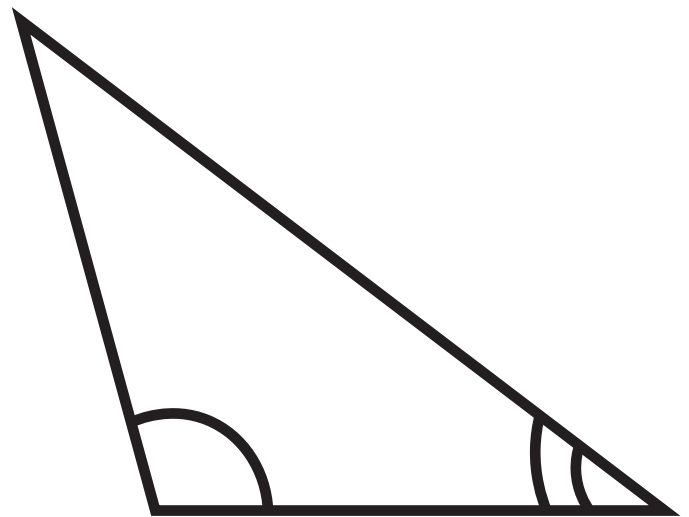
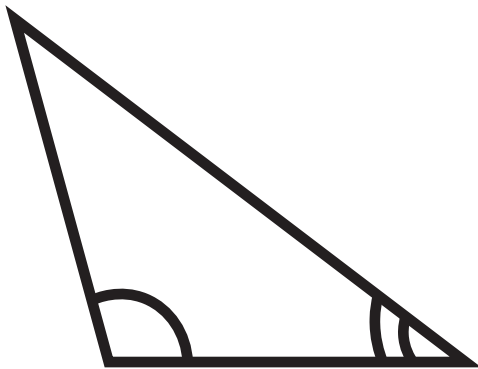
V.



$$\frac{5.58 \text{ feet}}{7.5 \text{ feet}} \stackrel{?}{=} \frac{9.3 \text{ feet}}{12.5 \text{ feet}}$$
$$5.58 \cdot 12.5 = 69.75 \quad \checkmark$$
$$7.5 \cdot 9.3 = 69.75 \quad \checkmark$$

side-angle-side similarity

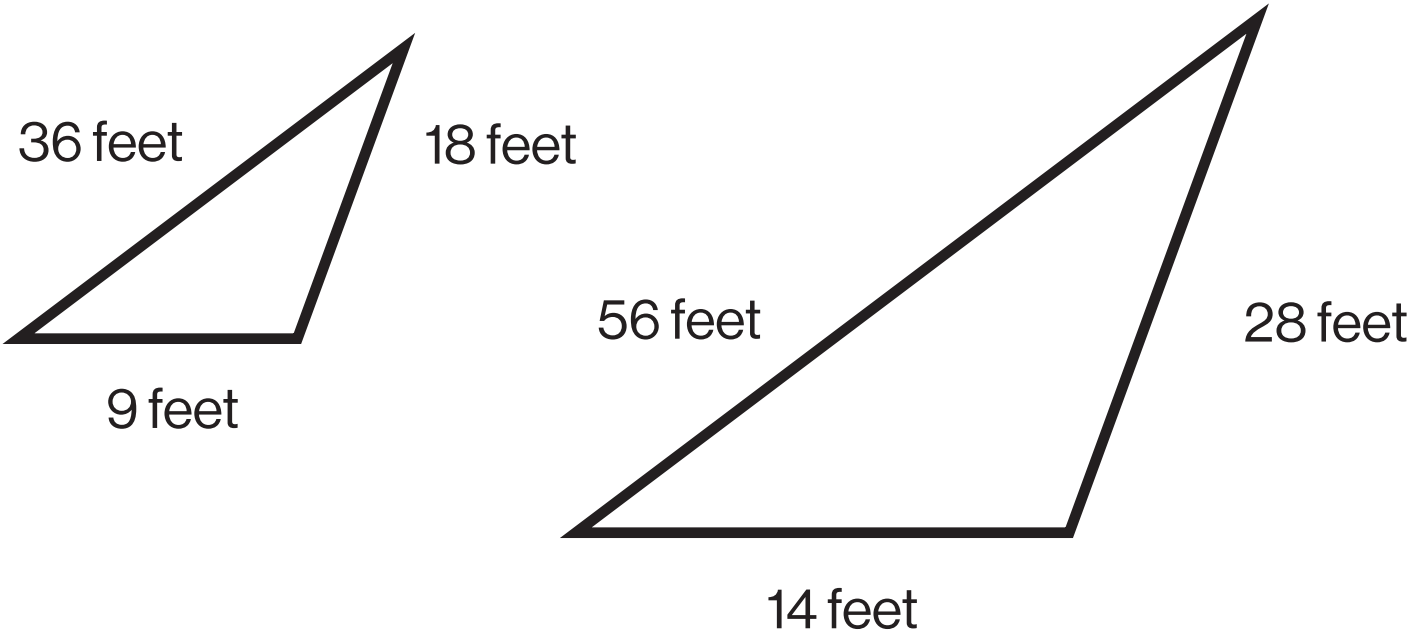
VI.



angle-angle similarity

Similarity and Proportionality Practice

VII.



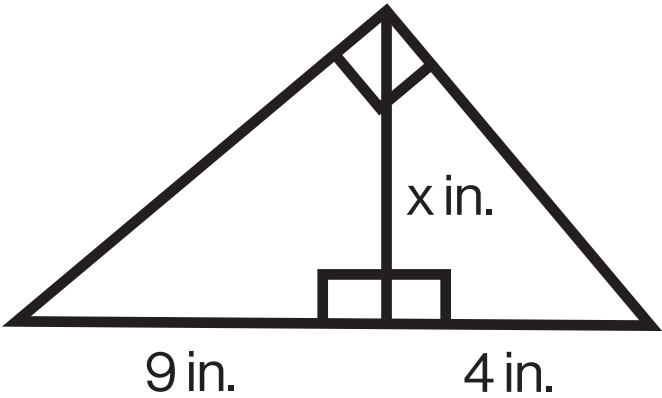
Question 3

Determine the value of the variable

I.

side-side-side similarity

$$\begin{array}{ccc} \frac{36 \text{ ft.}}{56 \text{ ft.}} & = & \frac{18 \text{ ft.}}{28 \text{ ft.}} = \frac{9 \text{ ft.}}{14 \text{ ft.}} \\ \downarrow & & \downarrow \quad \downarrow \\ \frac{9 \text{ ft.}}{14 \text{ ft.}} & = & \frac{9 \text{ ft.}}{14 \text{ ft.}} = \frac{9 \text{ ft.}}{14 \text{ ft.}} \\ \checkmark & & \checkmark \quad \checkmark \end{array}$$

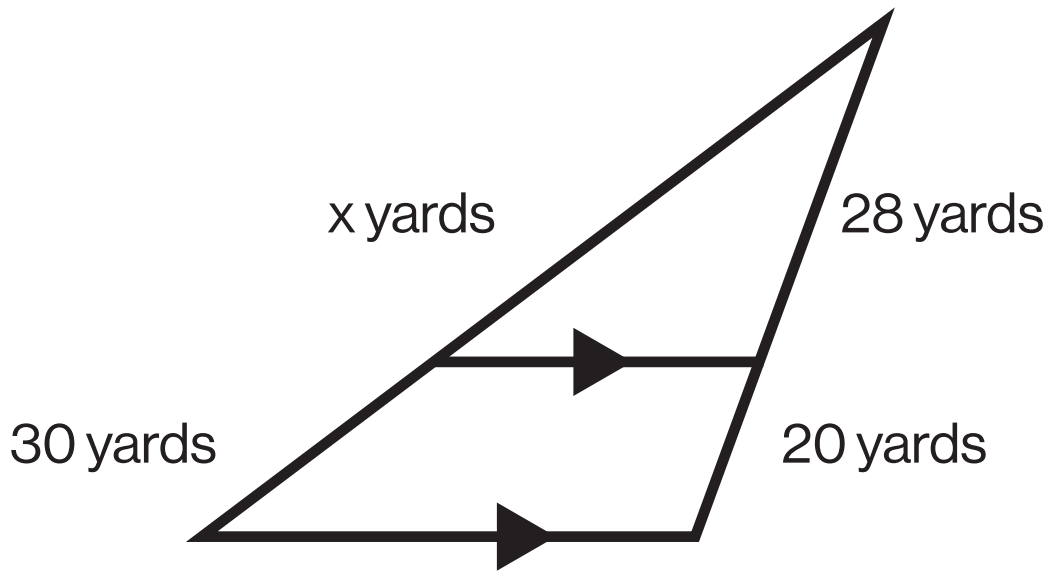


$$\begin{array}{ccccccc} \frac{4 \text{ in.}}{x \text{ in.}} & = & \frac{x \text{ in.}}{9 \text{ in.}} & \longrightarrow & x \cdot x = 4 \cdot 9 & \longrightarrow & x^2 = 36 \longrightarrow x = \pm \sqrt{36} \\ & & & & & & \downarrow \\ & & & & & & 6 \text{ or } -6 \end{array}$$

$x = 6$ ← $\checkmark$ $\times$ distance cannot be negative

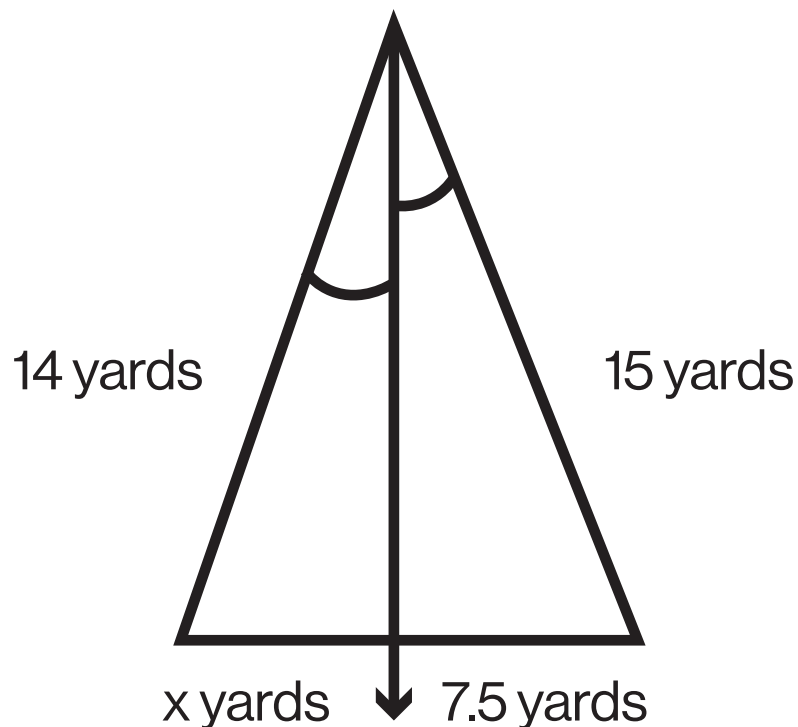
Similarity and Proportionality Practice

II.



$$\frac{30 \text{ yd}}{x \text{ yd}} = \frac{20 \text{ yd}}{28 \text{ yd}} \longrightarrow 840 = 20x \longrightarrow 42 = x$$

III.



$$\frac{7.5 \text{ yd}}{x \text{ yd}} = \frac{15 \text{ yd}}{14 \text{ yd}} \longrightarrow 105 = 15x \longrightarrow 7 = x$$