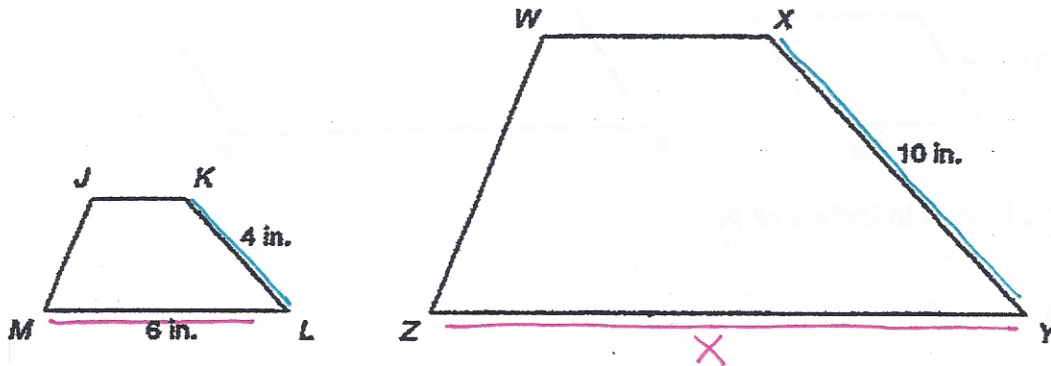


### Similarity and Triangles Test Review

1

Trapezoid JKLM is similar to trapezoid WXYZ.



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

- A.  $6\frac{2}{3}$  in.
- B. 12 in.
- C.  $10\frac{2}{3}$  in.
- D. 15 in.**

$$\frac{4}{6} = \frac{10}{X}$$

$$\frac{2 \times 5}{3 \times 5} = \frac{10}{X}$$

$X = 15$

2

Ana drew a map of the Panama Canal. In the scale Ana used for the map, 4 centimeters represents 20 kilometers. The actual length of the Panama Canal is 82 kilometers. What is the length in centimeters of the Panama Canal on Ana's map?

- F. 410 cm
- G. 15.5 cm
- H. 16.4 cm**
- J. 162 cm

$$\frac{4 \text{ cm}}{20 \text{ km}} = \frac{X}{82 \text{ km}}$$

$$\frac{1 \text{ cm}}{5 \text{ km}} = \frac{X \text{ cm}}{82 \text{ km}}$$

$82 \times 1 = 82$

$82 \div 5 =$

$X = 16.4$

$$\begin{array}{r} 16.4 \\ 5 \overline{) 82.0} \\ \underline{5} \phantom{0} \\ 32 \phantom{0} \\ \underline{30} \phantom{0} \\ 20 \phantom{0} \\ \underline{20} \\ 0 \end{array}$$

3

In the scale used on a blueprint,  $\frac{1}{4}$  inch represents 2 feet. On the blueprint what is the length of a room with an actual length of 20 feet?

- F. 10 in.
- G. 5 in.
- H.  $\frac{1}{2}$  in.
- J.  $2\frac{1}{2}$  in.**

$$\frac{\frac{1}{4} \text{ in}}{2 \text{ ft}} = \frac{X \text{ in}}{20 \text{ ft}}$$

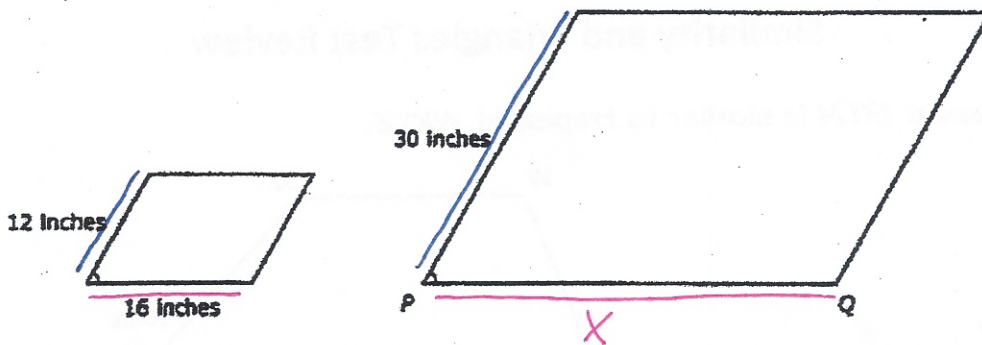
$$\frac{1}{4} \times 10 = \frac{1}{4} \cdot \frac{10}{1} = \frac{10}{4} = 2\frac{1}{2}$$

or

$$0.25 \times 10 = 2.5$$

4

The two parallelograms below are similar.



What is the length in inches of PQ?

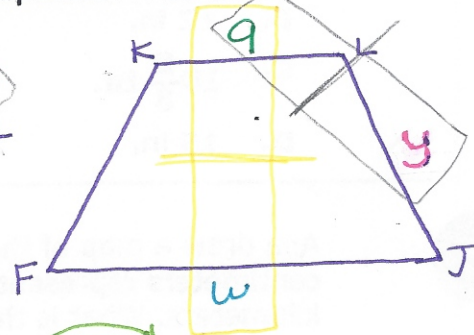
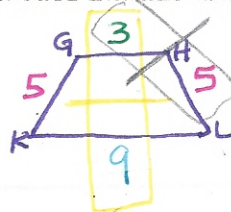
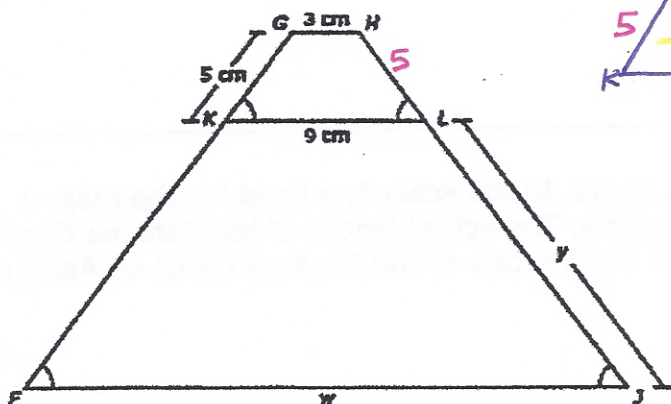
- A. 40 in.
- B. 34 in.
- C. 38 in.
- D. 14 in.

$$\frac{12}{16} = \frac{30}{X}$$

$$\frac{6}{8} \xrightarrow{\times 5} \frac{30}{X}$$

5

Janelle drew  $\overline{KL}$  in isosceles trapezoid  $FGHJ$  to create similar trapezoids  $FKLJ$  and  $KGHL$ .



$$\frac{3}{5} = \frac{9}{y} \quad y = 15$$

Based on the given information, what are the values of  $y$  and  $w$  in centimeters?

- A.  $y = 11$  cm and  $w = 15$  cm
- B.  $y = 15$  cm and  $w = 15$  cm
- C.  $y = 11$  cm and  $w = 27$  cm
- D.  $y = 15$  cm and  $w = 27$  cm

$$\frac{3}{9} = \frac{9}{w} \quad w = 27$$

6

Corbin made a scale model of the San Jacinto Monument. The monument has an actual height of 604 feet. Corbin's model used a scale in which 1 inch represents 100 feet. What is the height in inches of Corbin's model?

$$\frac{1 \text{ in}}{100 \text{ ft}} = \frac{X \text{ in}}{604 \text{ ft}}$$

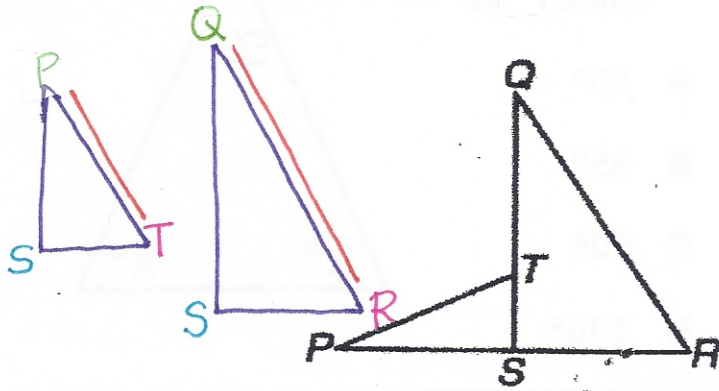
$$604 \times 1 = 604$$

$$604 \div 100 =$$

$$X = 6.04 \text{ in}$$

$$\begin{array}{r} 6.04 \\ 100 \overline{) 604.00} \\ \underline{-600} \phantom{00} \\ 40 \phantom{00} \\ \underline{-40} \phantom{00} \\ 000 \\ \underline{-400} \\ 0 \end{array}$$

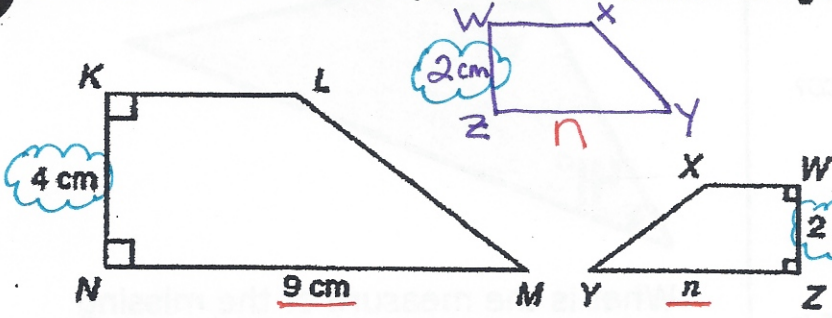
$\triangle SQR$  is similar to  $\triangle SPT$ .



Which segment corresponds to  $\overline{QR}$ ?

- F.  $\overline{SP}$
- G.  $\overline{ST}$
- H.  $\overline{PR}$
- J.  $\overline{PT}$

In the diagram below, figure  $KLMN$  is similar to figure  $WXYZ$ .



cross products should be  $n$  and  $4$  and  $2$  and  $9$

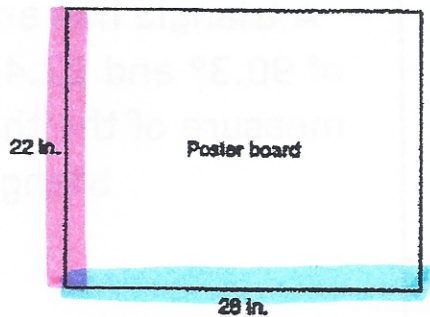
~~$\frac{2}{n} = \frac{4}{9}$~~

remember—proportions can be set up many ways but the cross products will be the same in all correct proportions

- A.  $\frac{4}{n} = \frac{2}{9}$  NO
- B.  $\frac{2}{n} = \frac{9}{4}$  NO
- C.  $\frac{13}{n} = \frac{2}{4}$  NO
- D.  $\frac{4}{2} = \frac{9}{n}$  YES

Which of the following proportions can be used to find the value of  $n$ ?

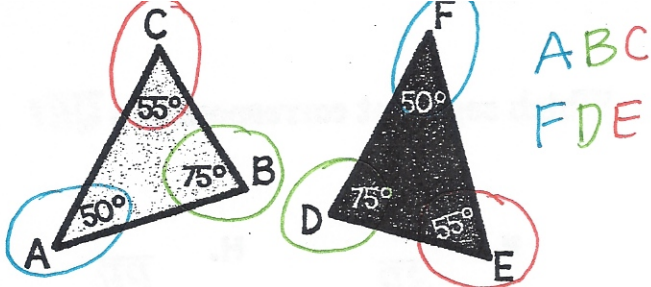
The dimensions of a rectangular poster board are shown below.



$\frac{22}{28}$  simplify!  $\frac{11}{14}$

Which rectangle can be dilated to fit the exact dimensions of this poster board?

- F.  $\frac{6}{7} = \frac{11}{14}$  NO
- G.  $\frac{7}{9.5} = \frac{11}{14}$   $9.5 \times 11 \neq 7 \times 14$
- H.  $\frac{7}{13} = \frac{11}{14}$   $7 \cdot 14 \neq 11 \cdot 13$
- J.  $\frac{5.5}{7} = \frac{11}{14}$  YES!



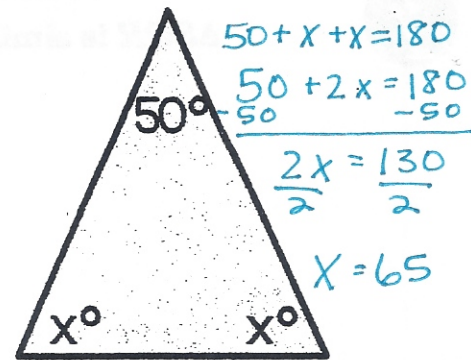
Which of the following statements is true?

- A  $\triangle ABC \sim \triangle DEF$
- B  $\triangle ABC \sim \triangle FED$
- C  $\triangle ABC \sim \triangle DFE$
- D  $\triangle ABC \sim \triangle FDE$

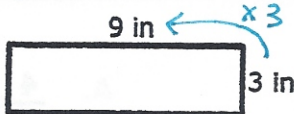
What is the value of x?

- A  $60^\circ$
- B  $65^\circ$
- C  $80^\circ$
- D  $130^\circ$

below.



Rectangle ABCD is shown below.

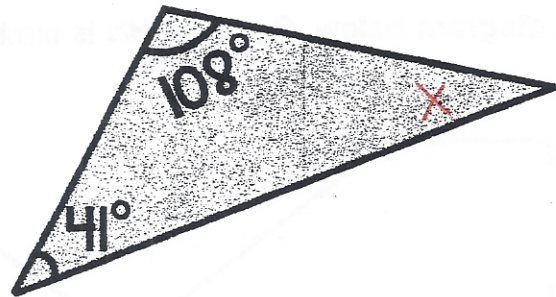


Which rectangle below is NOT similar to rectangle ABCD?

- A **B**
- C **D**

A triangle is shown below.

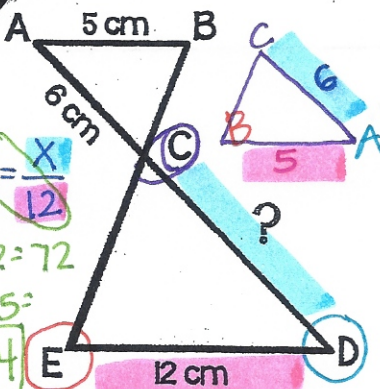
15



What is the measure of the missing angle in degrees?

$$\begin{aligned}
 108 + 41 + x &= 180 \\
 149 + x &= 180 \\
 -149 & \quad -149 \\
 \hline
 x &= 31
 \end{aligned}$$

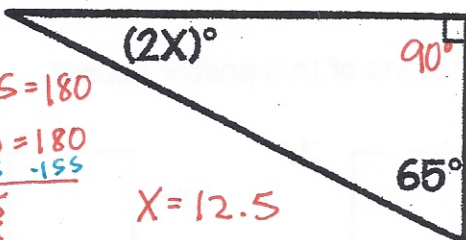
Triangle ABC and Triangle DEC are similar.



What is the length of DC?

- A 12 cm
- B 14.4 cm
- C 16 cm
- D 18.6 cm

A right triangle is shown below.



$$\begin{aligned}
 2x + 90 + 65 &= 180 \\
 2x + 155 &= 180 \\
 -155 & \quad -155 \\
 \hline
 2x &= 25 \\
 \frac{2x}{2} &= \frac{25}{2} \\
 x &= 12.5
 \end{aligned}$$

Which equation and solution represents the value of x?

- A  $2x = 65; x = 22.5$
- B  $2x + 65 = 90; x = 12.5$
- C  $2x + 65 + 90 = 180; x = 12.5$
- D  $2x + 65 + 90 = 360; x = 102.5$

A triangle has angle measures of  $90.3^\circ$  and  $22.45^\circ$ . What is the measure of the third angle in the triangle?

16

$$\begin{aligned}
 90.3 + 22.45 + x &= 180 \\
 112.75 + x &= 180 \\
 -112.75 & \quad -112.75 \\
 \hline
 x &= 67.25
 \end{aligned}$$

Fill in the blank with the correct term.

17

If two similar polygons have corresponding sides that are proportional, then the corresponding angles if the figures must also be \_\_\_\_\_.

Congruent!

corresponding angles are always equal / congruent in similar figures