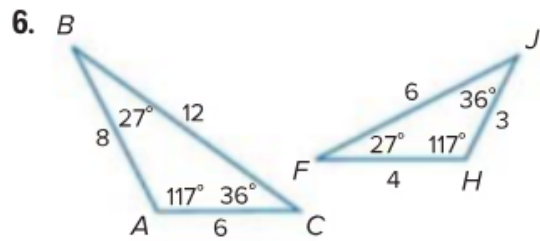
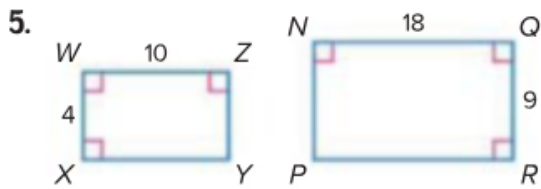
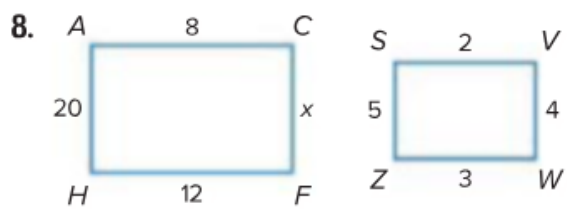
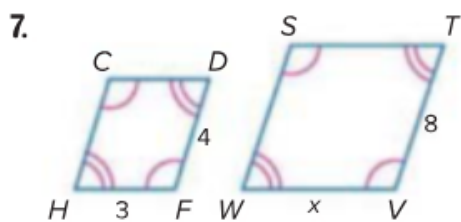


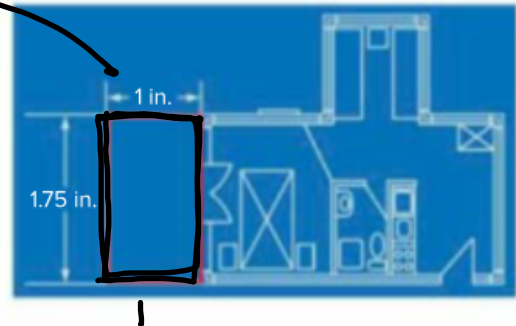
Determine whether each pair of figures is similar. If so, write the similarity statement and scale factor. If not, explain your reasoning.



Each pair of polygons is similar. Find the value of  $x$ .



9. **DESIGN** On the blueprint of the apartment shown, the balcony measures 1 inch wide by 1.75 inches long. If the actual length of the balcony is 7 feet, what is the perimeter of the balcony?

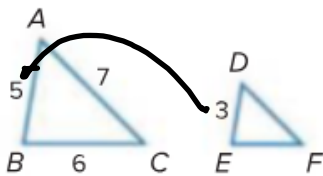


$$\frac{1 \text{ in.}}{84.17} = \frac{5.5}{x}$$

$$x = 462$$

Find the perimeter of the given triangle.

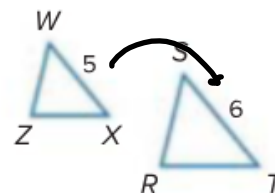
23.  $\triangle DEF$ , if  $\triangle ABC \sim \triangle DEF$ ,  $AB = 5$ ,  $BC = 6$ ,  $AC = 7$ , and  $DE = 3$



$$\frac{3}{5} = \frac{x}{18}$$

$$\frac{54}{5} = x$$

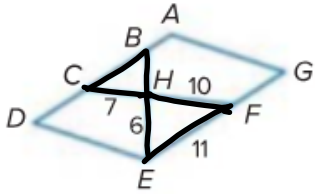
24.  $\triangle WZX$ , if  $\triangle WZX \sim \triangle SRT$ ,  $ST = 6$ ,  $WX = 5$ , and the perimeter of  $\triangle SRT = 15$



$$\frac{6}{5} = \frac{x}{15}$$

$$\frac{75}{5} = x$$

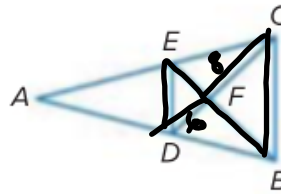
25.  $\triangle CBH$ , if  $\triangle CBH \sim \triangle FEH$ ,  
 $ADEG$  is a parallelogram,  $CH = 7$ ,  
 $FH = 10$ ,  $FE = 11$ , and  $EH = 6$



$$\frac{7}{10} = \frac{x}{27}$$

$$\frac{189}{10} = 10x$$

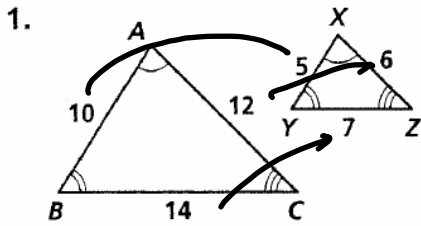
26.  $\triangle DEF$ , if  $\triangle DEF \sim \triangle CBF$ ,  
 perimeter of  $\triangle CBF = 27$ ,  
 $DF = 6$ ,  $FC = 8$



$$\frac{6}{3} = \frac{x}{27}$$

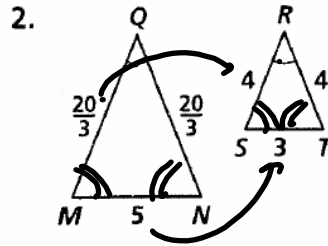
$$\frac{81}{4} = 4x$$

Are the polygons similar? If they are, write a similarity statement, and give the similarity ratio. If they are not, explain.



$$\frac{10}{5} \rightarrow \frac{12}{6} = \frac{14}{7}$$

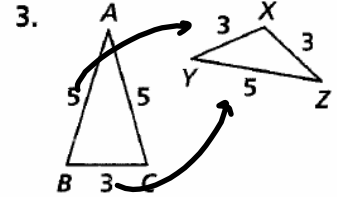
$$2 = 2 = 2$$



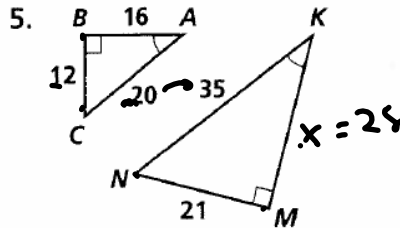
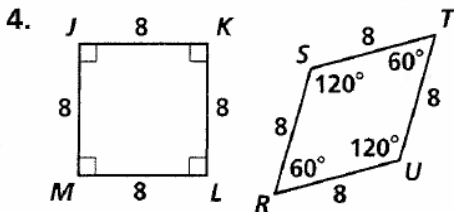
$$\frac{20}{3} \neq \frac{4}{3}$$

$$\frac{20}{3} \neq \frac{4}{3}$$

$$\frac{5}{3} \neq \frac{4}{3}$$



$$\frac{5}{3} \neq \frac{3}{5}$$

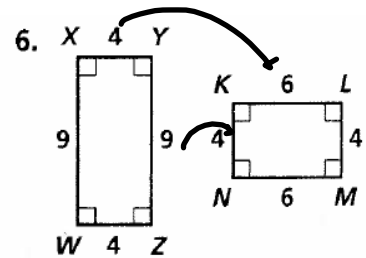


$$\frac{20}{35} = \frac{12}{21} = \frac{16}{28}$$

$$\frac{4}{7} = \frac{4}{7} = \frac{4}{7} \checkmark$$

$$35^2 = 21^2 + x^2$$

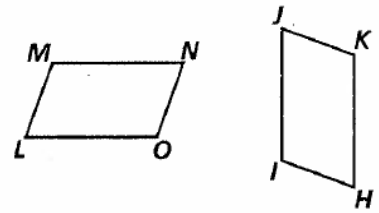
$$x = 28$$



$$\frac{4}{6} \neq \frac{9}{4}$$

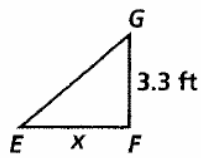
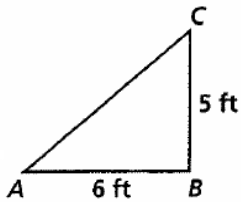
$LMNO \sim HIJK$ . Complete the proportions and congruence statements.

7.  $\angle M \cong ?$   $\angle I$       8.  $\angle K \cong ?$   $\angle O$       9.  $\angle N \cong ?$   $\angle J$   
 10.  $\frac{MN}{IJ} = \frac{NO}{JK}$       11.  $\frac{HK}{LO} = \frac{HI}{LM}$       12.  $\frac{IJ}{MN} = \frac{HK}{LO}$

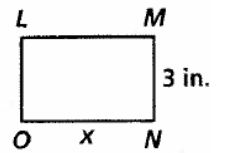
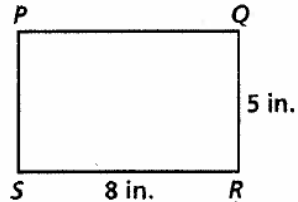


Algebra The polygons are similar. Find the values of the variables.

13.



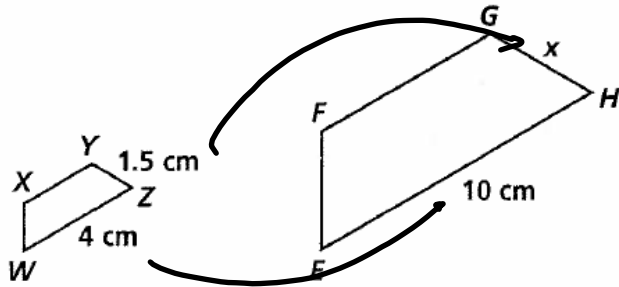
14.



$$\frac{3.3}{5} = \frac{x}{6}$$

$$\frac{19.8}{5} = \frac{5x}{5}$$

15.

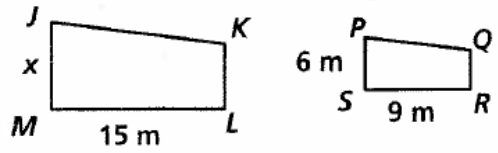


$$\frac{1.5}{x} = \frac{4}{10}$$

$$2/2 \cdot x = \frac{2.5}{2}$$

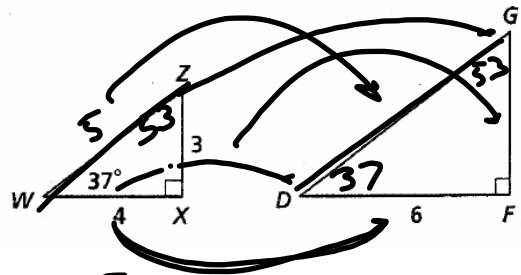
$$x = 3.75$$

16.



$\triangle WXZ \sim \triangle DFG$ . Use the diagram to find the following.

- 17. the similarity ratio of  $\triangle WXZ$  and  $\triangle DFG$   $\frac{4}{5} = \frac{2}{3}$
- 18.  $m\angle Z$  53
- 19.  $DG$   $\frac{1}{2} \cdot 15 = 7.5$
- 20.  $GF$
- 21.  $m\angle G$
- 22.  $m\angle D$
- 23.  $WZ$



$$\frac{3}{5} = \frac{x}{10}$$

$$2x = 15$$

$$x = 7.5$$

$$\frac{2}{3} = \frac{3}{x}$$

$$2x = 9$$

$$x = 4.5$$