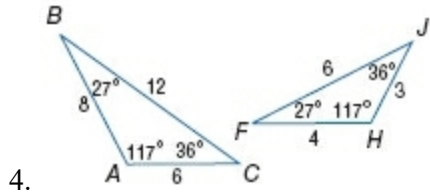


## 7-2 Similar Polygons

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



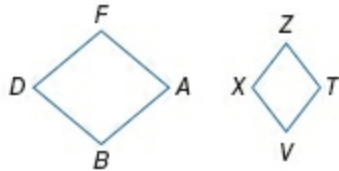
ANSWER:

Yes;  $\triangle ABC \sim \triangle HFJ$  since  $\angle A \cong \angle H$ ,  $\angle B \cong \angle F$ ,  $\angle C \cong \angle J$  and

$$\frac{AB}{HF} = \frac{BC}{FJ} = \frac{CA}{JH}; \text{ scale factor: } \frac{2}{1}$$

List all pairs of congruent angles, and write a proportion that relates the corresponding sides for each pair of similar polygons.

10.  $ABDF \sim VXZT$

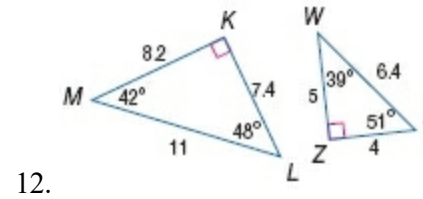


ANSWER:

$\angle A \cong \angle V$ ,  $\angle B \cong \angle X$ ,  $\angle D \cong \angle Z$ ,  $\angle F \cong \angle T$ ;

$$\frac{AB}{VX} = \frac{BD}{XZ} = \frac{DF}{ZT} = \frac{FA}{TV}$$

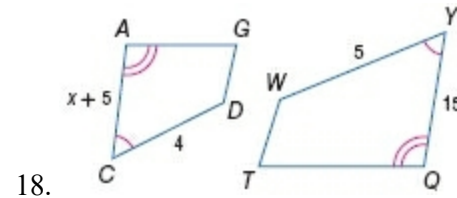
CCSS ARGUMENTS Determine whether each pair of figures is similar. If so, write the similarity statement and scale factor. If not, explain your reasoning.



ANSWER:

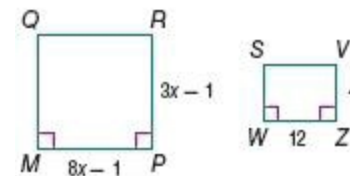
no;  $\angle L \not\cong \angle W$

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



ANSWER:

7



20.

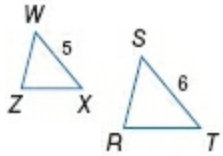
ANSWER:

2

## 7-2 Similar Polygons

Find the perimeter of the given triangle.

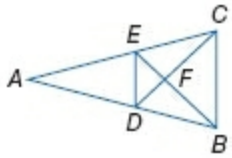
24.  $\triangle WZX$ , if  $\triangle WZX \sim \triangle SRT$ ,  $ST = 6$ ,  $WX = 5$ , and the perimeter of  $\triangle SRT = 15$



ANSWER:

12.5

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

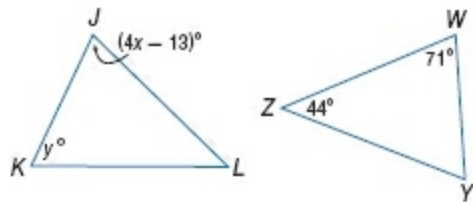


ANSWER:

20.25

Find the value of each variable.

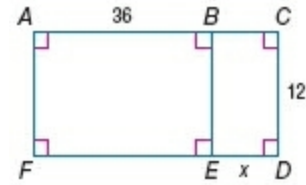
36.  $\triangle JKL \sim \triangle WYZ$



ANSWER:

$x = 21, y = 65$

51. **CHALLENGE** For what value(s) of  $x$  is  $BEFA \sim EDCB$ ?



ANSWER:

4