

Name: \_\_\_\_\_

8.1 Practice Problems

1 Algebra If  $\frac{x}{y} = \frac{5}{8}$ , which of the following must be true?

a.  $8x = 5y$

b.  $5x = 8y$

c.  $\frac{y}{x} = \frac{8}{5}$

d.  $\frac{x}{5} = \frac{y}{8}$

e.  $\frac{x}{8} = \frac{y}{5}$

f.  $\frac{x+y}{y} = \frac{13}{8}$

2. Solve for x.

a.  $\frac{7}{5} = \frac{x}{3}$

b.  $\frac{2}{x} = \frac{x}{32}$

c.  $\frac{3}{11} = \frac{8}{x}$

d.  $\frac{x}{x+2} = \frac{3}{4}$

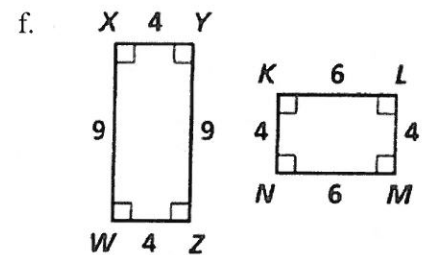
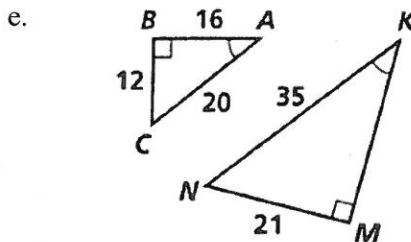
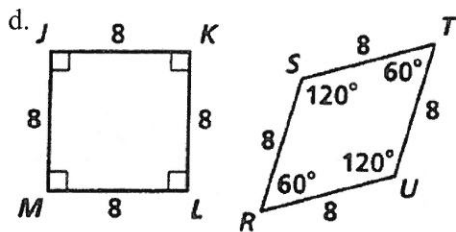
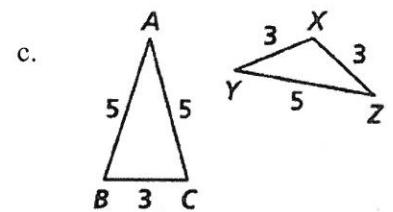
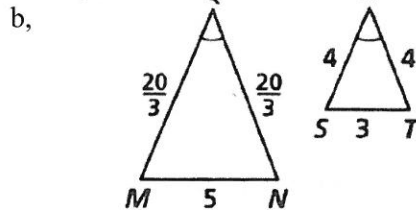
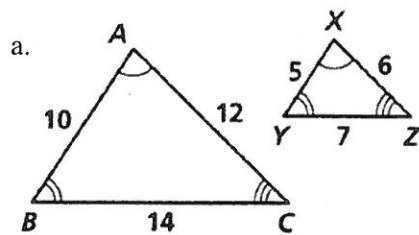
e.  $\frac{x+1}{x} = \frac{7}{5}$

f.  $\frac{5}{x} = \frac{3}{x+1}$

3. Decided whether the polygons are always, sometimes or never similar.

- a. Two triangles
- b. Two congruent pentagons
- c. Two regular octagons
- d. A rectangle and a square
- e. A right triangle and an isosceles triangle
- f. A parallelogram and a trapezoid

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



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

7.  $\angle M \cong ?$

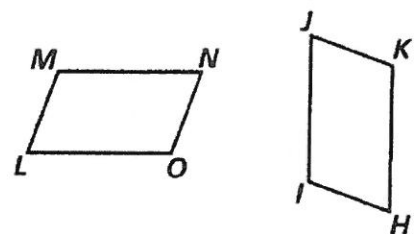
8.  $\angle K \cong ?$

9.  $\angle N \cong ?$

10.  $\frac{MN}{IJ} = \frac{?}{JK}$

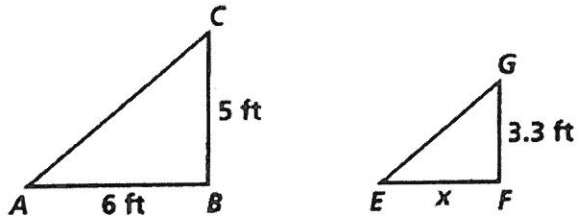
11.  $\frac{HK}{?} = \frac{HI}{LM}$

12.  $\frac{IJ}{MN} = \frac{HK}{?}$

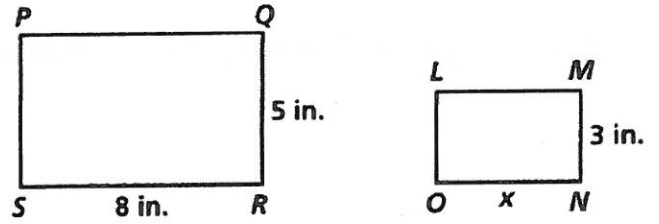


**Algebra** The polygons are similar. Find the values of the variables.

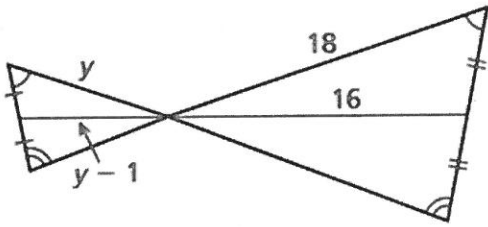
13.



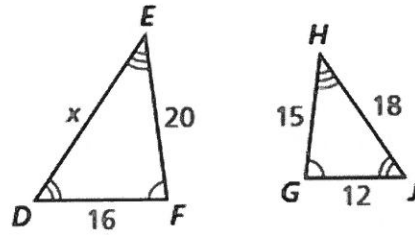
14.



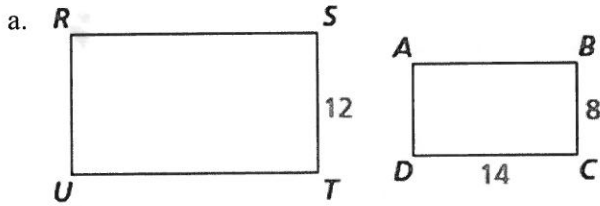
15. Find  $y$ .



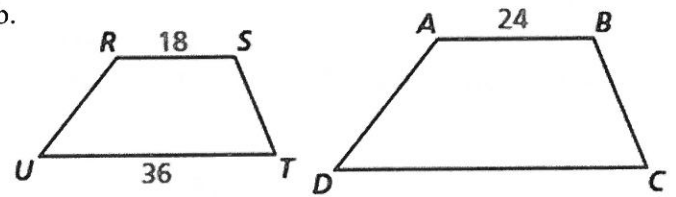
16. Find  $x$  and write a similarity statement.



17. Given  $RSTU \sim ABCD$ , find the ratio of their perimeters.

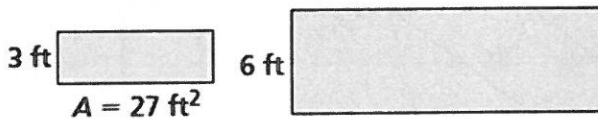


b.

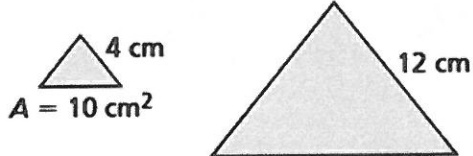


In Exercises 19–22, the polygons are similar. The area of one polygon is given. Find the area of the other polygon. (See Example 5.)

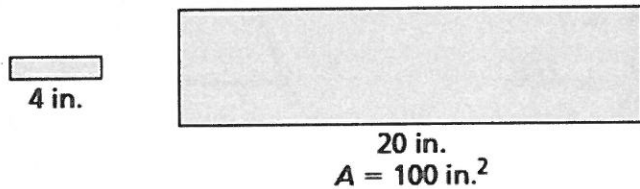
19.



20.



21.



22. Given  $ABCD \sim EFGH$ , find  $m\angle F$ .

