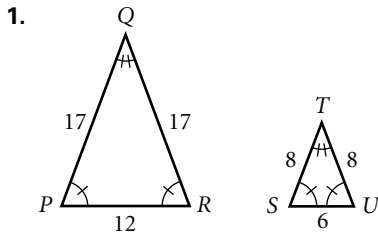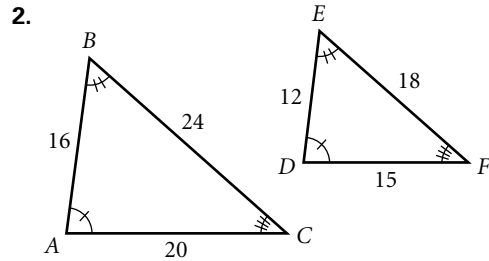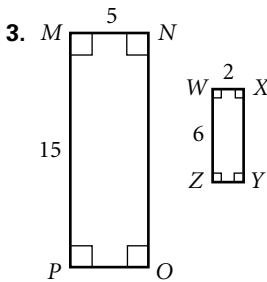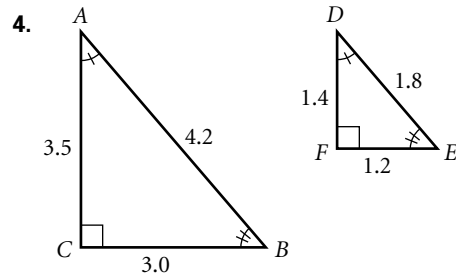# Practice
8.2 Similar Polygons

In Exercises 1–4, determine whether the polygons are similar. Explain your reasoning. If the polygons are similar, write a similarity statement.

1.

_____

_____

2.

_____

_____

3.

_____

_____

4.

_____

_____

Solve each proportion for x.

5. $\dfrac{x}{18} = \dfrac{22}{12}$

_____

6. $\dfrac{22}{x} = \dfrac{2}{18}$

_____

7. $\dfrac{\frac{1}{4}}{16} = \dfrac{\frac{5}{8}}{x}$

_____

8. $\dfrac{8}{x} = \dfrac{x}{50}$

_____

9. $\dfrac{3}{x-3} = \dfrac{5}{x+1}$

_____

10. $\dfrac{3x-7}{15} = \dfrac{2x-1}{21}$

_____

Answers

14.
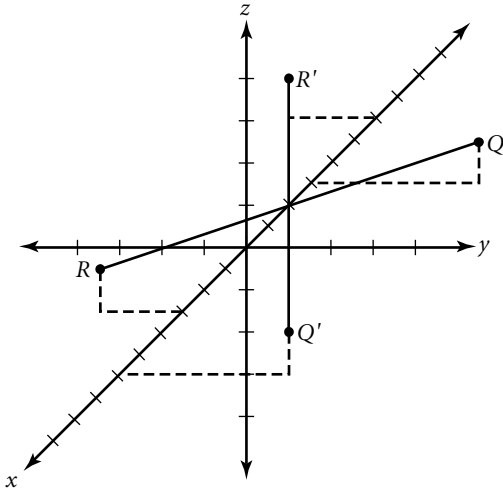
Practice — Chapter 8

Lesson 8.1

1. scale factor $= 2$

2. scale factor $= 2.5$

3. scale factor $= -0.5$

4. scale factor $= -1.5$

5. $y = \frac{3}{2}x$;

Substituting $O(0, 0)$ in for x and y gives $0 = 0$, which is true. Thus, the origin is on this line.

6. $y = 4x$;

Substituting $O(0, 0)$ in for x and y gives $0 = 0$, which is true. Thus, the origin is on this line.

7. $y = 2x$;

Substituting $O(0, 0)$ in for x and y gives $0 = 0$, which is true. Thus, the origin is on this line.

8. $y = \frac{4}{3}x$;

Substituting $O(0, 0)$ in for x and y gives $0 = 0$, which is true. Thus, the origin is on this line.

9. $y = -\frac{3}{4}x$;

Substituting $O(0, 0)$ in for x and y gives $0 = 0$, which is true. Thus, the origin is on this line.

10. $y = x$;

Substituting $O(0, 0)$ in for x and y gives $0 = 0$, which is true. Thus, the origin is on this line.

Lesson 8.2

1. No; $\frac{PR}{SU} = \frac{12}{6} = 2$, but $\frac{PQ}{ST} = \frac{17}{8} \neq 2$.

2. Yes; It is given that $\angle A \cong \angle D$, $\angle B \cong \angle E$, and $\angle C \cong \angle F$.

Also, $\frac{AB}{DE} = \frac{AC}{DF} = \frac{BC}{EF} = \frac{4}{3}$,

so $\triangle ABC \sim \triangle DEF$.

3. Yes; $\angle M \cong \angle W$, $\angle N \cong \angle X$, $\angle P \cong \angle Z$, and $\angle O \cong \angle Y$; and

$\frac{MN}{WX} = \frac{NO}{XY} = \frac{PO}{ZY} = \frac{MP}{WZ} = \frac{5}{2}$,

so rectangle $MNOP \sim$ rectangle $WXYZ$.

4. No; $\frac{AC}{DF} = \frac{3.5}{1.4} = \frac{5}{2}$,

but $\frac{AB}{DE} = \frac{4.2}{1.8} = \frac{7}{3} \neq \frac{5}{2}$.

5. $x = 33$ 6. $x = 198$ 7. $x = 40$

8. $x = 20$ or -20 9. $x = 9$ 10. $x = 4$

Lesson 8.3

1. Yes; $\frac{AB}{ED} = \frac{BC}{EF} = \frac{AC}{DF} = \frac{2}{3}$, so

$\triangle ABC \sim \triangle DEF$ by SSS Similarity Theorem.

2. Yes; m$\angle G = 60°$, so $\triangle GHI \sim \triangle LKM$ by AA Similarity Postulate.