## 8.5 Practice A

**1.** Determine whether △ABC or △DEF is similar to △XYZ.

(triangle ABC: AB = 12, AC = 12, BC = 15)
(triangle DEF: DE = 10, DF = 10, EF = 14)
(triangle XYZ: XY = 18, XZ = 18, YZ = 25.2)
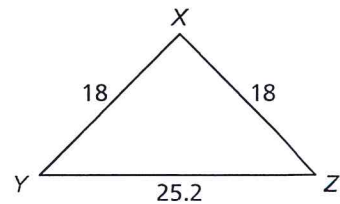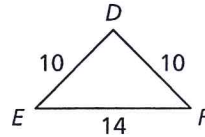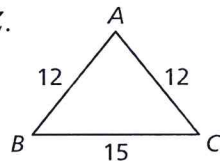
**In Exercises 2 and 3, find the value of x that makes △PQR ~ △JKL.**

**2.** (triangle PQR: QR = x + 2, QP = 8, PR = 10)
(triangle JKL: JK = x + 1, JL... LK = 3, K = 4)

**3.** (triangle PQR: PR = 18, PQ = 9, QR = x + 1)
(triangle JKL: 3x, JK = 13.5, LK = 15)
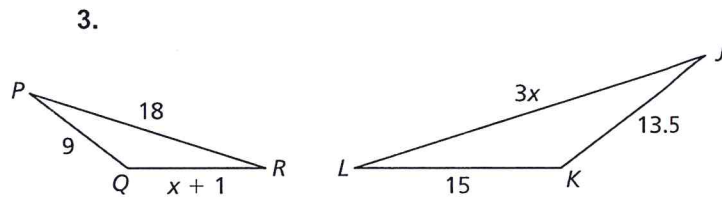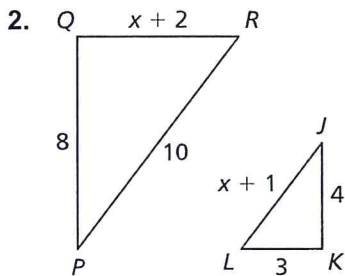
**4.** Verify that △TUV ~ △XYZ. Find the scale factor of △TUV to △XYZ.

△TUV: TU = 15, UV = 21, TV = 18      △XYZ: XY = 35, YZ = 49, XZ = 42

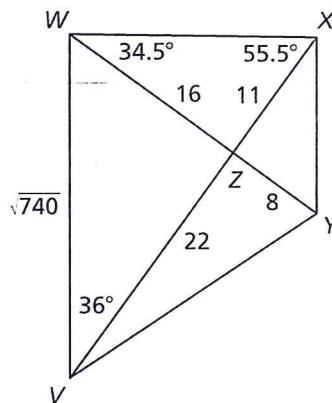**In Exercises 5 and 6, show that the triangles are similar and write a similarity statement. Explain your reasoning.**

**5.** (triangle with A, E at top; B, D middle; C bottom; AB = 5, ED = 4, BC = 10, DC = 8)

**6.** (triangle EFG: EF = 18, FG = 14, EG = 10)
(triangle LMN: LM = 15, MN = 27, LN = 21)
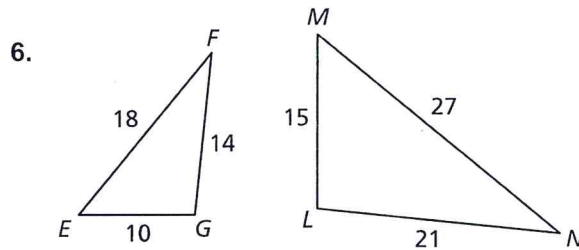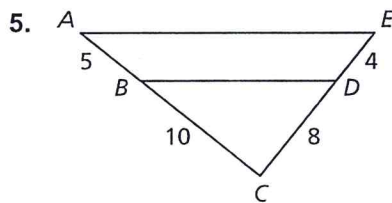
**In Exercises 7–11, use the diagram to copy and complete the statement.**

**7.** △VWZ ~ _____       **8.** m∠VZY = _____

**9.** m∠VWY = _____       **10.** m∠WXY = _____

**11.** XY = _____

(diagram with W, X top; 34.5°, 55.5°, 16, 11, Z, 8, Y, √740, 22, 36°, V)

**12.** In the figure for Exercises 7–11, is △WXZ ~ △YVZ? Explain your reasoning.

**13.** Use the figure to write a two-column proof.

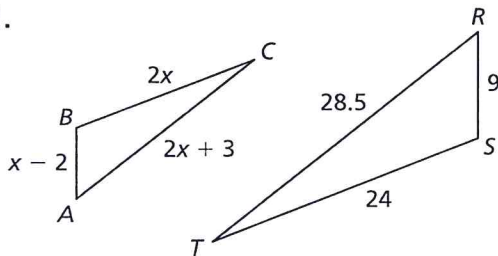**Given** $\dfrac{PR}{QR} = \dfrac{TR}{SR}$       **Prove** $\overline{QS} \parallel \overline{PT}$
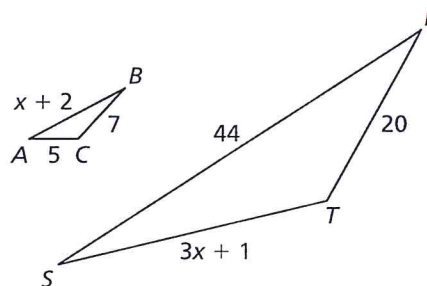
(triangle with R top, Q, S middle, P, T bottom)
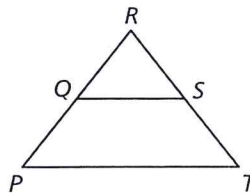
## 8.5  Practice B

**In Exercises 1 and 2, find the value of *x* that makes △*ABC* ~ △*RST*.**

**1.**



**2.**



3   Verify that △*JKL* ~ △*PQR*. Find the scale factor of △*JKL* to △*PQR*.

△*JKL*: *JK* = 15, *KL* = 30, *JL* = 25        △*PQR*: *PQ* = 12, *QR* = 24, *PR* = 20
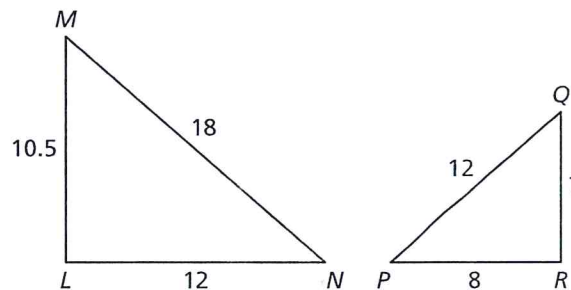
**In Exercises 4 and 5, show that the triangles are similar and write a similarity statement. Explain your reasoning.**
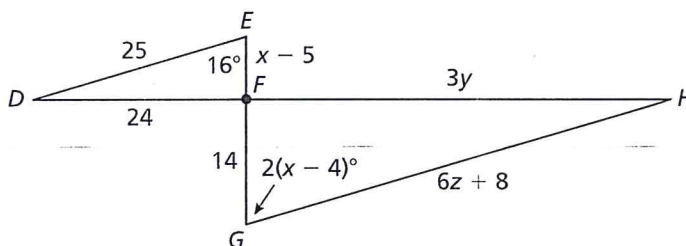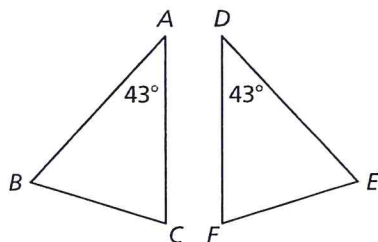
**4.**
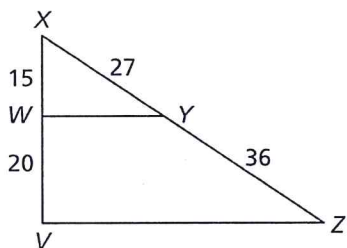


**5.**



6.   △*ABC* has side lengths 42, 21, and 35 units. The shortest side of a triangle similar to △*ABC* is 9 units long. Find the other lengths of the triangle.

7.   Use the figure to find the values of *x*, *y*, and *z* that makes △*DEF* ~ △*GHF*.



**Use the figure to write a two-column proof**

8.   **Given** $\dfrac{AC}{DF} = \dfrac{AB}{DE}$        **Prove** ∠*B* ≅ ∠*E*

9.   **Given** *LN* = 2*x*

*MN* = 2*y*

*NP* = *x*

*NQ* = *y*

**Prove** △*MLN* ~ △*PQN*