1. Respond to each question.

  a. Explain how we know that triangle *ABC* and triangle *DEF* are similar.
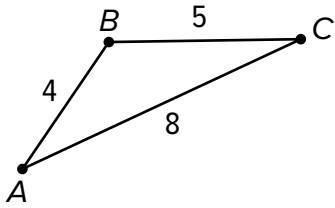
  b. What does that tell us about angle *D*?
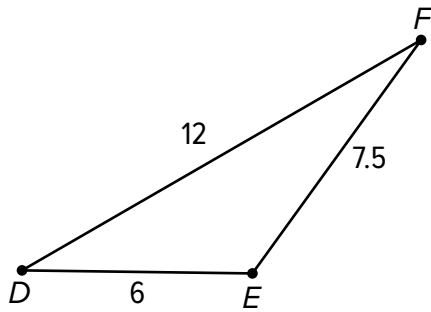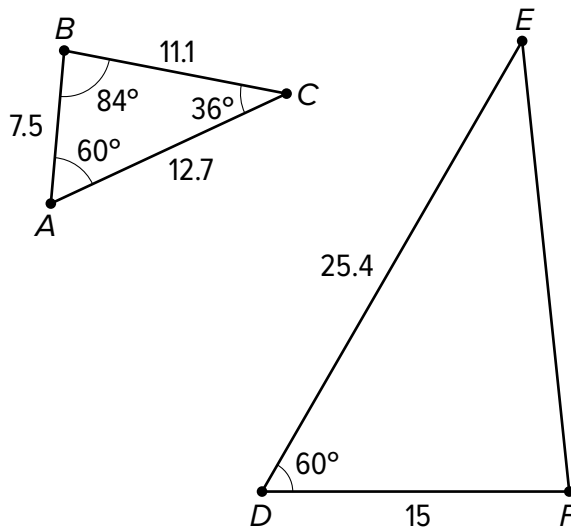

2. Respond to each question.

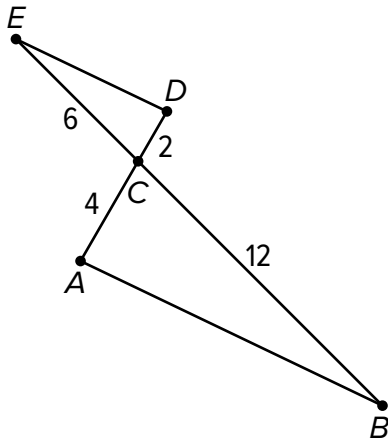 **a.** Find the length of *EF*.

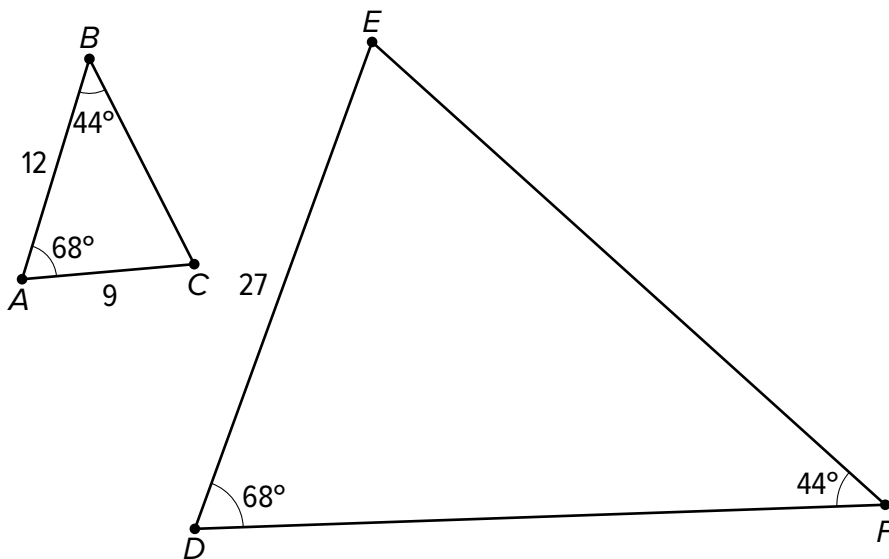 **b.** Find the measure of angle *E*.

  c. Find the measure of angle *F*.

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3. Decide whether triangles *ABC* and *DEC* are similar. Explain or show your reasoning.

E

D

6

2

4 C

12

A

B

4. What is the length of segment *DF*? **(Lesson 3-9)**

B

44°

12

68°

A   9   C   27

E

68°

D

44°

F

A. 3 units

B. $\frac{81}{4}$ units

C. 36 units

D. 48 units

5. In triangle *ABC*, angle *A* is 75° and angle *B* is 20°. Select the triangle that is similar to triangle *ABC*. **(Lesson 3-9)**

(**A.**) triangle *DEF* where angle *D* is 75° and angle *E* is 20°

(**B.**) triangle *DEF* where angle *D* is 20° and angle *E* is 75°

(**C.**) triangle *DEF* where angle *D* is 85° and angle *E* is 20°

(**D.**) triangle *DEF* where angle *D* is 20° and angle *F* is 85°

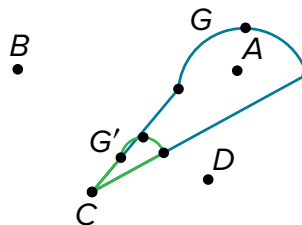**6.** Sketch a pair of rectangles that are similar. **(Lesson 3-8)**

7. Determine if each statement must be true, could possibly be true, or definitely can't be true. Explain or show your reasoning. **(Lesson 3-7)**

   a. Two line segments are similar.

   b. Two angles are similar.

8. Figure *G′* is the image of Figure *G* by a dilation. **(Lesson 3-2)**

   a. Where is the center of this dilation?

   b. Estimate the scale factor.