Example 1

Prove $\triangle ABC \sim \triangle DEC$.
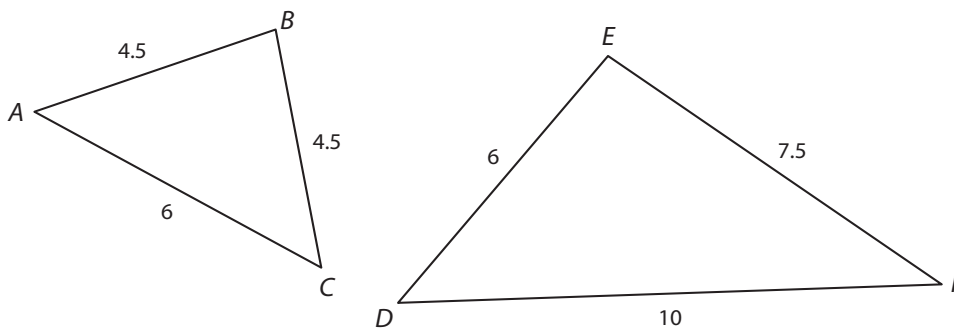
B
4
6
C
12
D
A
8
9
6
E

Example 2

Determine whether the triangles are similar. Explain your reasoning.

B
6
30°
A
10.5
C

7
D
30°
E
4
F
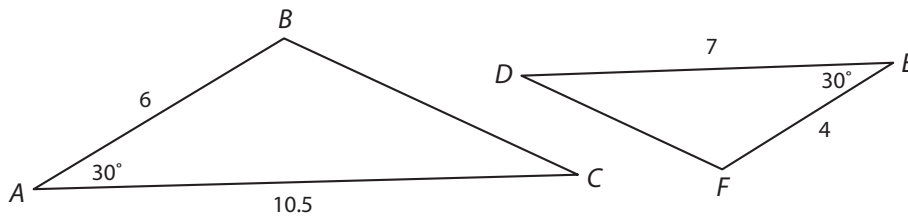
Example 3

Determine whether the triangles are similar. Explain your reasoning.

B
4.5
A
4.5
6
C

E
6
7.5
D
10
F

Example 4

Identify the similar triangles and then find the value of x.

C
B
6
3
A   2   F   2.5   E   x   D
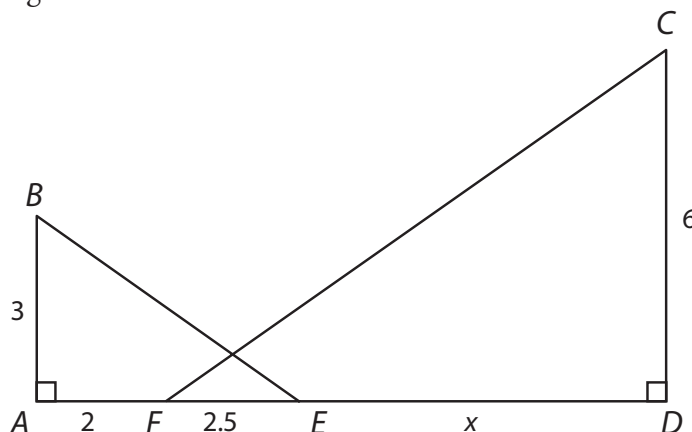
Problem-Based Task 1.7.1: Down, Down, Down

Gutters are designed to channel rainwater away from roofs, preventing water damage and leaks. Downspouts lead down from the gutters to the ground. The amount of downspout needed depends on the height of the house. If the downspout for the gutters is too short, the water can cause flooding. Blair is using a mirror to determine the height of his house so he can know how long of a downspout he needs to buy. He has placed the mirror on the ground and is standing far enough away from it that he can see the gutters of his house in the mirror. Blair, who is 5 foot 10 inches tall, measured his distance from the mirror as 105 inches. The distance from the mirror to the foundation of the house is 450 inches. Downspouts are often sold in 5-foot sections. How many sections of downspout does Blair need to purchase?
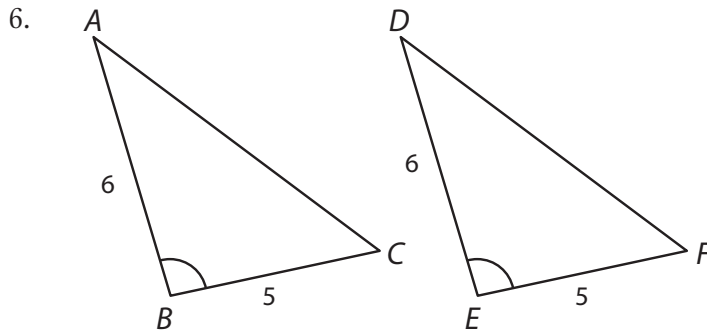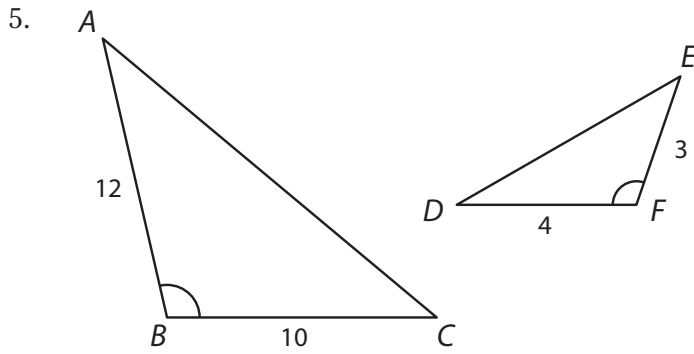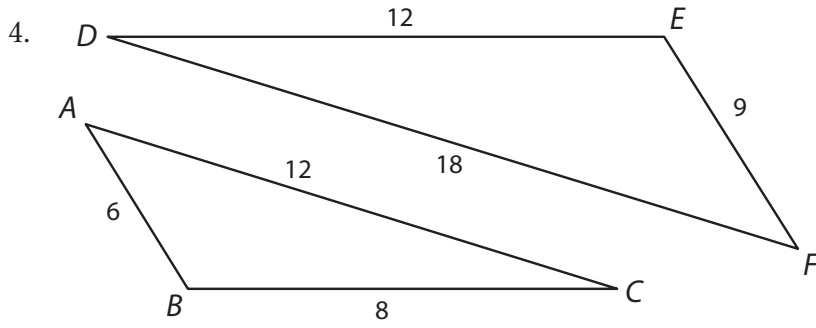

450 in   105 in   5 ft 10 in
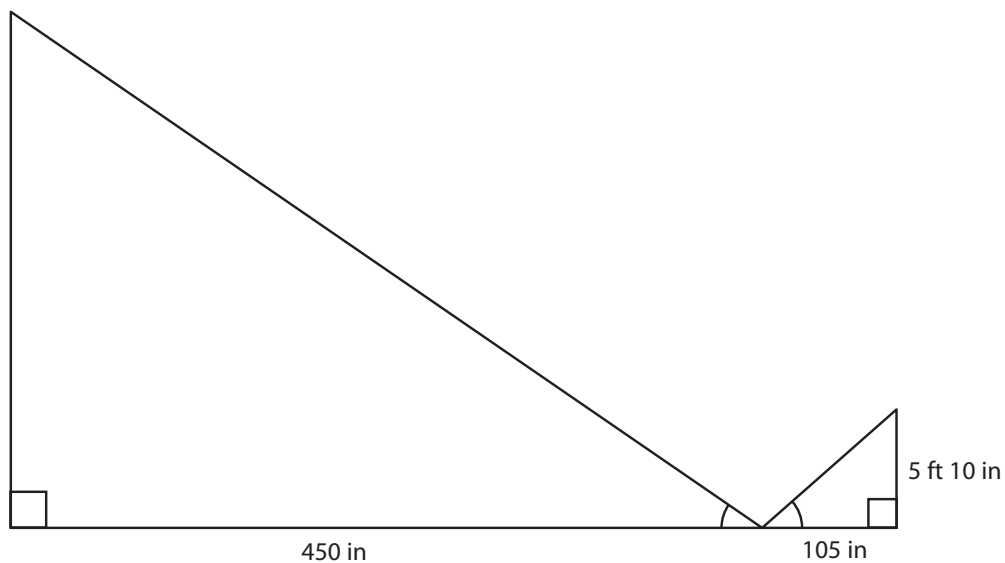
Practice 1.7.1: Proving Triangle Similarity Using Side-Angle-Side (SAS) Side-Side-Side (SSS) Similarity

Prove that the triangles are similar.

1.

A

5.6 E

D

13.5

5.4

14

C

F

B

2.

B

D 1 E

1.5

1

F

12

18

A

12

C

3.

B

C

7

5

A

2.5 E

6.25 D
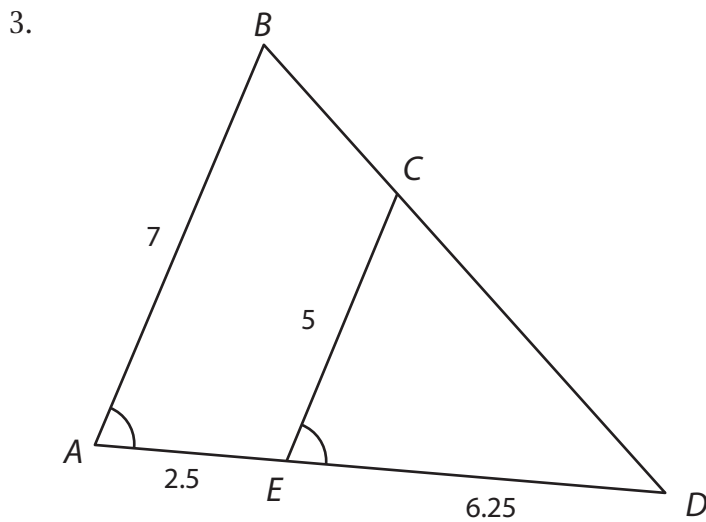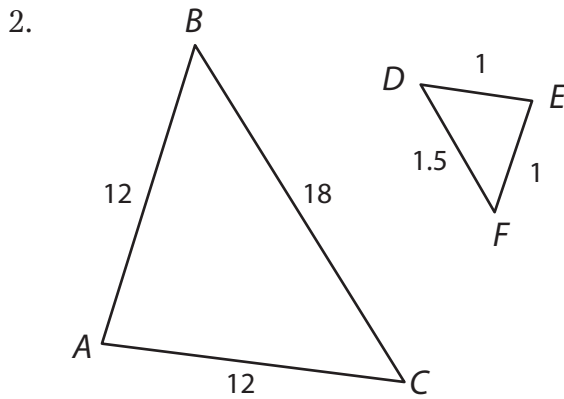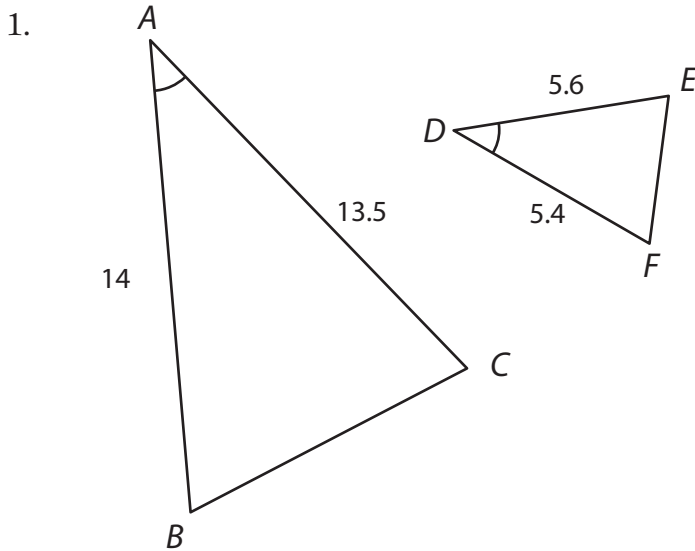
Determine whether the triangles are similar. If the triangles are similar, write a similarity statement.

4.

5.

6.

7. Find x