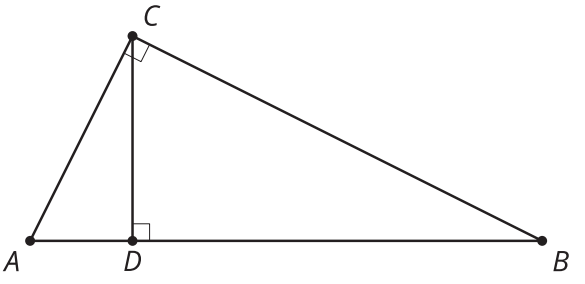
Lesson 13 Practice Problems

1. In right triangle ABC, altitude CD is drawn to its hypotenuse. Select **all** triangles which must be similar to triangle ABC.



   A. ABC

   B. ACD

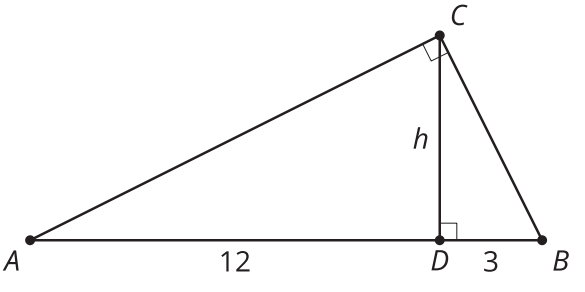
   C. BCD

   D. BDC

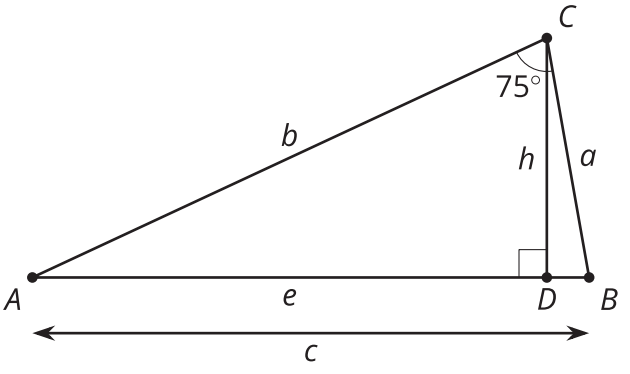
   E. CAD

   F. CBD

2. In right triangle ABC, altitude CD with length h is drawn to its hypotenuse. We also know $AD = 12$ and $DB = 3$. What is the value of h?



3. In triangle ABC (*not* a right triangle), altitude CD is drawn to side AB. The length of AB is c. Which of the following statements must be true?



A. The measure of angle ACB is the same measure as angle B.

B. $b^2 = c^2 + a^2$.

C. Triangle ADC is similar to triangle ACB.

D. The area of triangle ABC equals $\frac{1}{2}h \cdot c$.

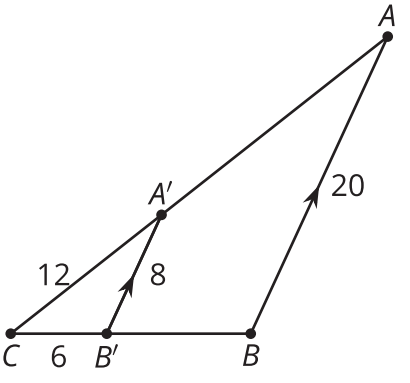
4. Quadrilateral $ABCD$ is similar to quadrilateral $A'B'C'D'$. Write 2 equations that could be used to solve for missing lengths.

(From Unit 3, Lesson 12.)

5. Segment $A'B'$ is parallel to segment AB.

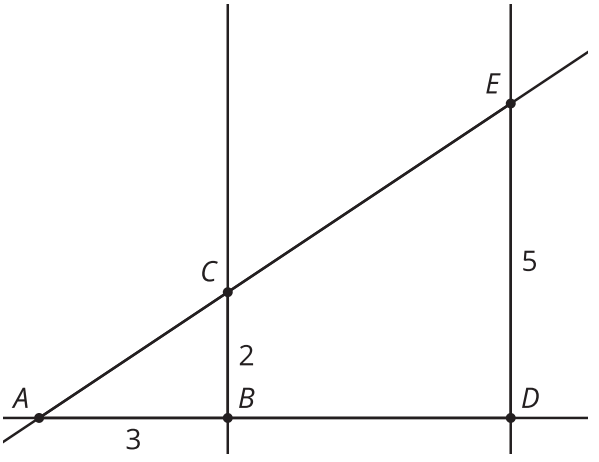
a. What is the length of segment $A'A$?

b. What is the length of segment $B'B$?



(From Unit 3, Lesson 11.)

6. Lines BC and DE are both vertical. What is the length of AD?



A. 4.5

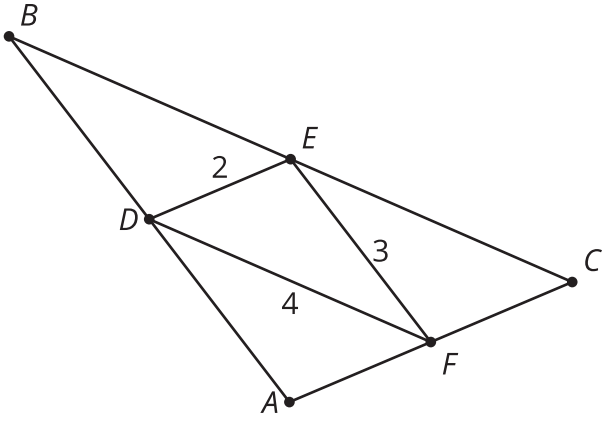
B. 5

C. 7.5

D. 10

(From Unit 3, Lesson 12.)

7. Triangle DEF is formed by connecting the midpoints of the sides of triangle ABC. Select **all** true statements.



A. Triangle BDE is congruent to triangle EFC

B. Triangle BDE is congruent to triangle DAF

C. BD is congruent to FE

D. The length of BC is 8

E. The length of BC is 6

(From Unit 3, Lesson 5.)