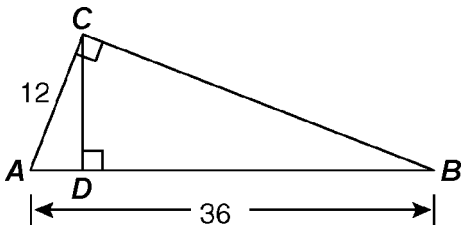
Name: _____

CC Geometry

Right Triangle Proportions

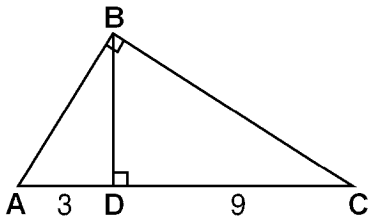
1) In the diagram below of right triangle *ACB*, altitude $\overline{CD}$ is drawn to hypotenuse $\overline{AB}$.




If $AB = 36$ and $AC = 12$, what is the length of $\overline{AD}$?

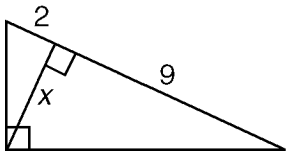
A) 32
B) 6
C) 3
D) 4

2) In the accompanying diagram of right triangle ABC, altitude $\overline{BD}$ divides hypotenuse $\overline{AC}$ into segments with lengths of 3 and 9.



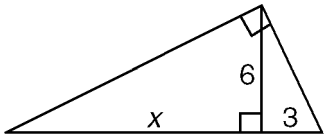

Find the length of leg $\overline{AB}$.

3) Solve for $x$:



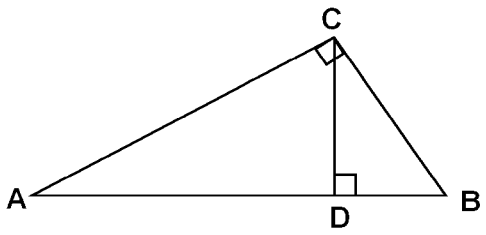

[*Show all work.*] [*Leave your answer in simplest form.*]

4) Solve for $x$:



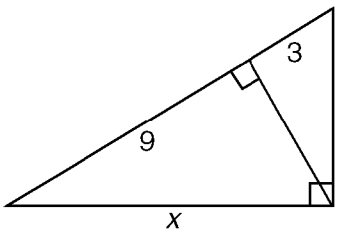

[*Show all work.*]

5) In the accompanying diagram of right triangle ABC, $\overline{CD}$ is drawn perpendicular to hypotenuse $\overline{AB}$.

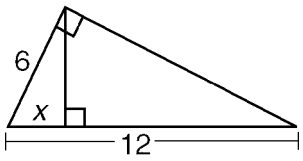



If AB = 16 and DB = 4, find BC.

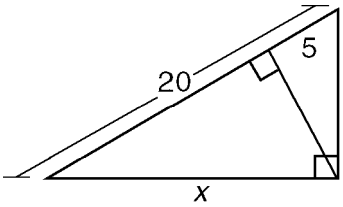
6) Solve for $x$:




7) Solve for $x$:




8) Solve for $x$:



1) D

2) 6

3) $3\sqrt{2}$

WORK SHOWN: $\frac{2}{x} = \frac{x}{9}$, $x^2 = 18$, $x = \sqrt{18} = 3\sqrt{2}$

4) 12

WORK SHOWN: $\frac{3}{6} = \frac{6}{x}$, $3x = 36$, $x = 12$

5) 8

6) $6\sqrt{3}$

7) 3

8) $10\sqrt{3}$