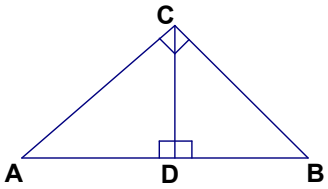
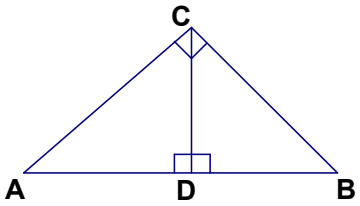
Name _____ Date _____
Mr. Schlansky Geometry

Altitude Drawn to a Right Triangle

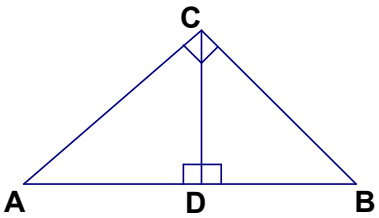
1. If $\overline{AD} = 3$ and $\overline{CD} = 6$, find $\overline{DB}$



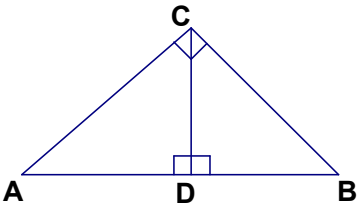
2. If $\overline{AC} = 10$ and $\overline{AD} = 5$, find $\overline{AB}$



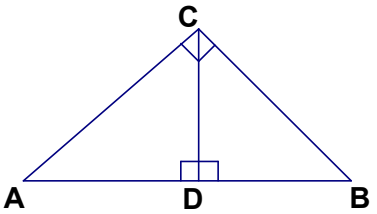
3. If $\overline{AC} = 6$ and $\overline{AB} = 9$, find $\overline{AD}$



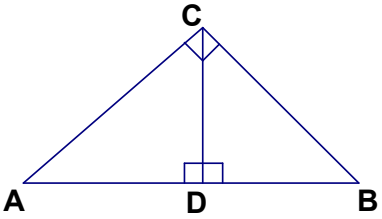
4. If $\overline{DB} = 4$ and $\overline{BC} = 10$, find $\overline{AB}$



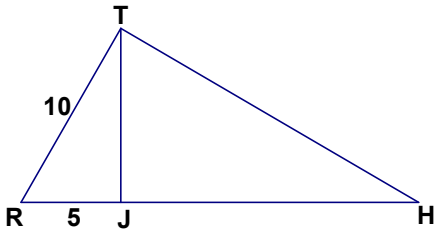
5. If $\overline{AD} = 3$ and $\overline{DB} = 27$, find $\overline{CD}$



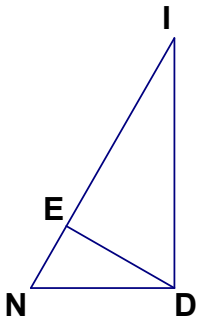
6. If $\overline{AD} = 2$ and $\overline{AB} = 18$, find $\overline{BC}$ to the nearest tenth



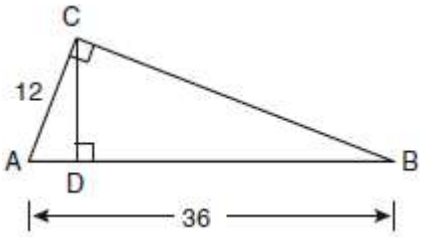
7. Altitude $\overline{TJ}$ is drawn to right triangle RTH. What is the measure of $\overline{RH}$?



8. In the diagram below, $\overline{DE}$ is an altitude drawn to right triangle NDI. If $\overline{IN} = 10$, and $\overline{DN} = 5$, find $\overline{EN}$.



9. 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 $\overline{AD}$?



10. In right triangle ABC, altitude $\overline{CD}$ is drawn to hypotenuse $\overline{AB}$.
If $AD = 3$ and $DB = 12$, what is the length of altitude $\overline{CD}$?

1) 6
2) $6\sqrt{5}$
3) 3
4) $3\sqrt{5}$

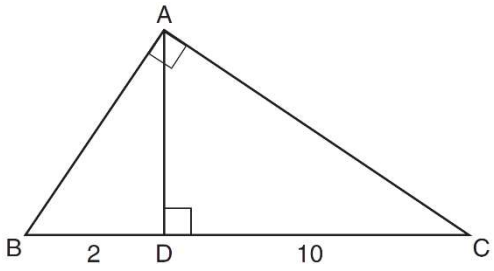
11. Line segment CD is the altitude drawn to hypotenuse $\overline{EF}$ in right triangle ECF. If $EC = 10$ and $EF = 24$, then, to the *nearest tenth*, ED is

1) 4.2
2) 5.4
3) 15.5
4) 21.8

12. Triangle ABC shown below is a right triangle with altitude $\overline{AD}$ drawn to the hypotenuse $\overline{BC}$.

If $BD = 2$ and $DC = 10$, what is the length of $\overline{AB}$?

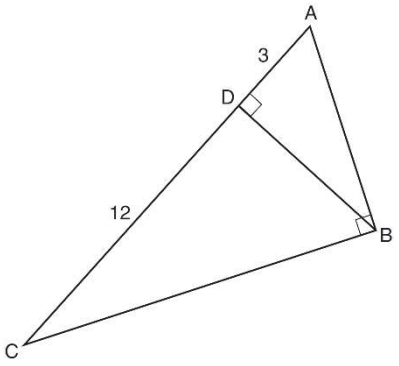
1) $2\sqrt{2}$
2) $2\sqrt{5}$
3) $2\sqrt{6}$
4) $2\sqrt{30}$



13. In right triangle ABC shown in the diagram below, altitude $\overline{BD}$ is drawn to hypotenuse $\overline{AC}$, $CD = 12$, and $AD = 3$.

What is the length of $\overline{AB}$?

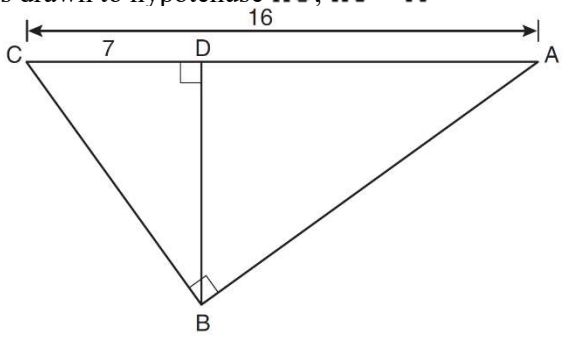
1) $5\sqrt{3}$
2) 6
3) $3\sqrt{5}$
4) 9



14. In the diagram below of right triangle ABC, altitude $\overline{BD}$ is drawn to hypotenuse $\overline{AC}$, $AC = 16$, and $CD = 7$.

What is the length of $\overline{BD}$?

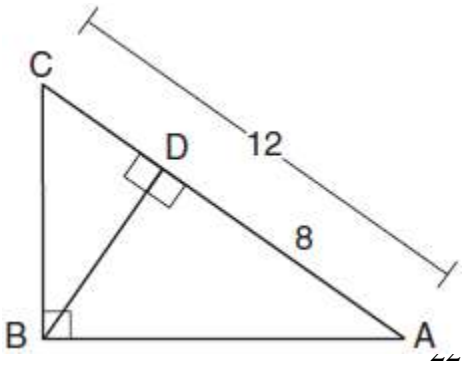
1) $3\sqrt{7}$
2) $4\sqrt{7}$
3) $7\sqrt{3}$
4) 12



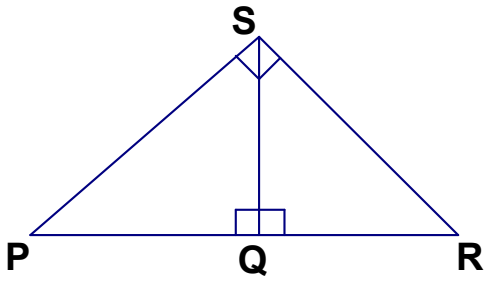
15. In the diagram below of $\triangle ABC$, $\angle ABC$ is a right angle, $AC = 12$, $AD = 8$, and altitude $\overline{BD}$ is drawn.

What is the length of $\overline{BC}$?

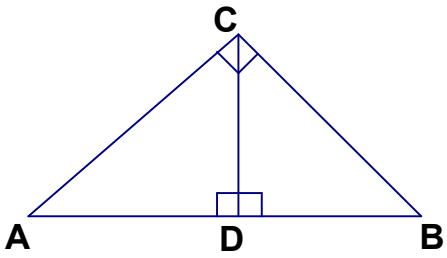
1) $4\sqrt{2}$
2) $4\sqrt{3}$
3) $4\sqrt{5}$
4) $4\sqrt{6}$



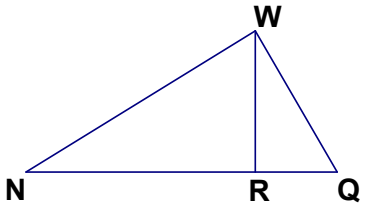
16. Altitude $\overline{SQ}$ is drawn to right triangle PSR. If $\overline{PQ}$ = 12 and $\overline{QR}$ is 3 less than $\overline{SQ}$, find the length of $\overline{QR}$.



17. Altitude $\overline{CD}$ is drawn to right triangle ABC. The measure of $\overline{DB}$ is 9 less than $\overline{DA}$. If the altitude is 6, find the measure of $\overline{AD}$.



18. Altitude $\overline{WR}$ is drawn to right triangle NWQ. If $\overline{QW}$ = 8 and $\overline{NQ}$ = 16, find $\overline{WR}$ to the nearest tenth.



19. In the diagram below, $\triangle RST$ is a $3-4-5$ right triangle. The altitude, *h*, to the hypotenuse has been drawn. Determine the length of *h*.