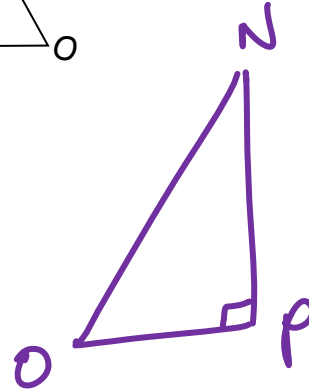
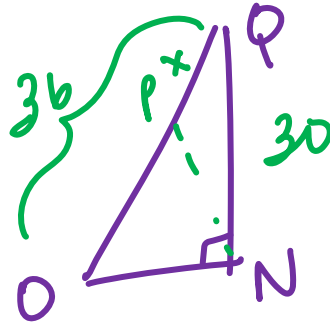
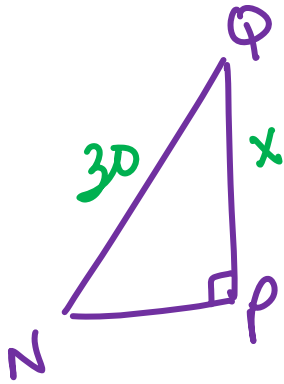
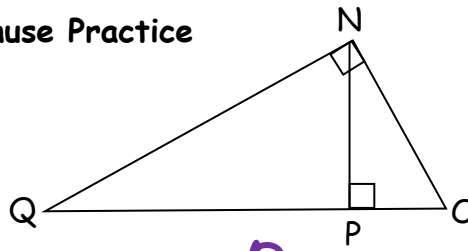


9.3 Altitude to the Hypotenuse Practice



1. $QP = 12, PO = 3$ $NP = \underline{6}$ 2. $QP = 12, PO = 4$ $ON = \underline{8}$

$$\frac{12}{x} = \frac{x}{3}$$

$$\frac{16}{x} = \frac{x}{4}$$

3. $QP = 20, PO = 5$ $QN = \underline{10\sqrt{5}}$ 4. $QO = 24, QP = 18$ $NP = \underline{6\sqrt{3}}$

$$\frac{25}{x} = \frac{x}{20}$$

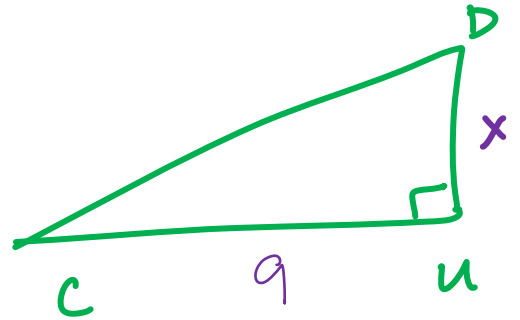
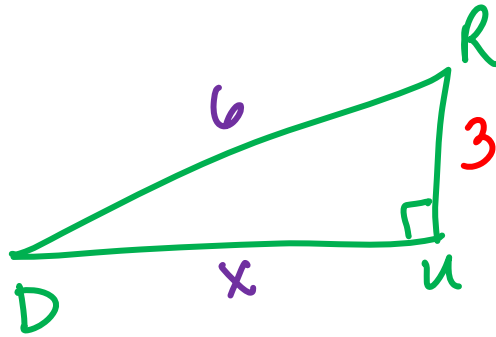
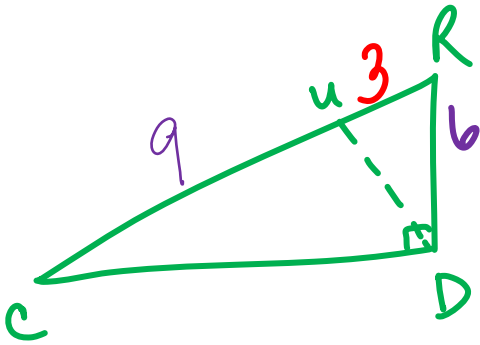
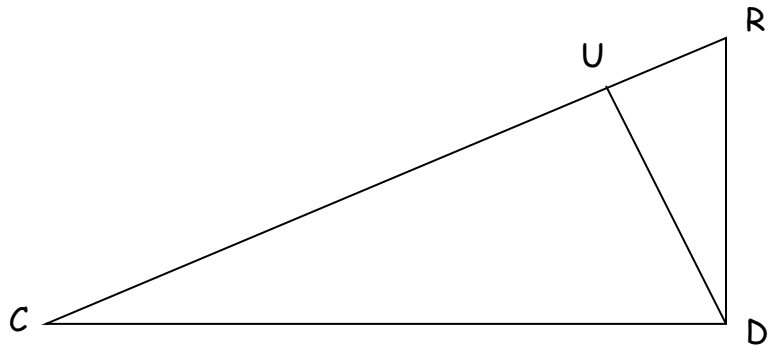
$$\frac{18}{x} = \frac{x}{6}$$

5. $NO = 10, PO = 5$ $QP = \underline{15}$ 6. $QN = 30, QO = 36$ $QP = \underline{25}$

$$\frac{10}{x+5} = \frac{5}{10}$$

$$\frac{30}{36} = \frac{x}{30}$$

Given: $\overline{DU} \perp \overline{RC}$
 $\overline{RD} \perp \overline{CD}$



7. $RU = 5, RC = 8$ $UD = \underline{\sqrt{15}}$
 $\frac{5}{x} = \frac{x}{3}$

8. $UD = 12, RU = 6$ $RC = \underline{30}$
 $\frac{6}{12} = \frac{12}{x}$
 $x = 24$

9. $CR = 14, UR = 8$ $CD = \underline{2\sqrt{21}}$
 $\frac{14}{x} = \frac{x}{6}$

10. $RD = 6, RC = 10$ $UC = \underline{6.4}$
 $\frac{10}{6} = \frac{6}{10-x}$

11. $UR = 6, CD = 4$ $CU = \underline{2}$
 $\frac{x+6}{4} = \frac{4}{x}$

12. $UC = 9, RD = 6$ $UD = \underline{3\sqrt{3}}$
 $\frac{9+y}{6} = \frac{6}{y}$ AND $\frac{3}{x} = \frac{x}{9}$
 $y^2 + 9y - 36 = 0$
 $(y+12)(y-3) = 0$
 $y = 3$