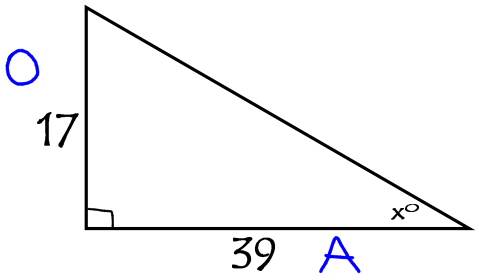
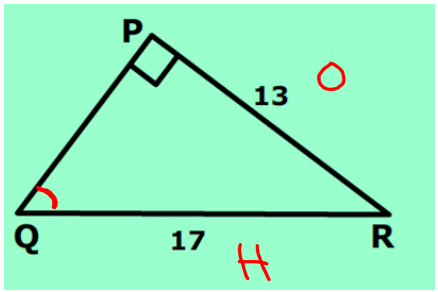
Finding Missing Angles in Right Triangles



Find x.

$\tan x = \frac{opp}{adj} = \frac{17}{39}$

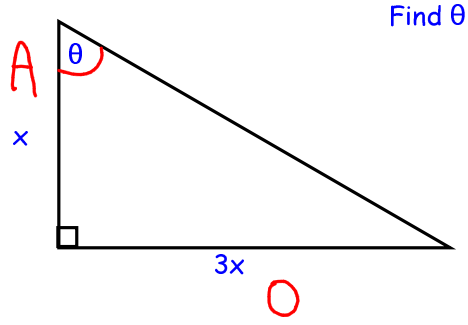
$x = 23.55^\circ$



Find angle Q.

$\sin Q = \frac{opp}{hyp} = \frac{13}{17}$

$Q = 49.88^\circ$



Find θ

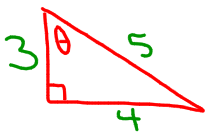
$\tan\theta = \frac{opp}{adj} = \frac{3x}{x}$

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

$\tan\theta = 3$

$\theta = 71.57^\circ$

$\sin\theta = \frac{4}{5}$



$\frac{4}{5} = \frac{opp}{hyp}$

$a^2 + 4^2 = 5^2$

$a^2 + 16 = 25$

$a^2 = 9$

$a = 3$

Find the other ratios

$\cos\theta = \frac{adj}{hyp} = \frac{3}{5}$

$\tan = \frac{opp}{adj} = \frac{4}{3}$

$\csc = \frac{hyp}{opp} = \frac{5}{4}$

$\sec = \frac{hyp}{adj} = \frac{5}{3}$

$\cot = \frac{adj}{opp} = \frac{3}{4}$