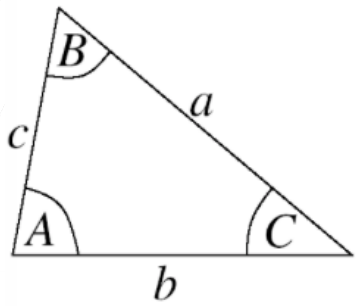
1. The Sine rule

To find a SIDE: $\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$

To find an ANGLE: $\frac{a}{sinA} = \frac{b}{sinB} = \frac{c}{sinC}$



NOTE: the most important thing for trigonometric rule is to always use sides opposite angles

Solve the following trigonometric equations

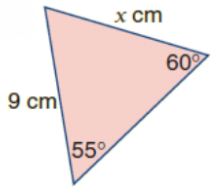
a) $\frac{\sin\theta^\circ}{6} = \frac{\sin 35^\circ}{7}$

$\theta = 29^o27'$

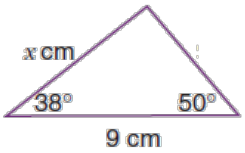
b) $\frac{\sin 32^\circ}{x} = \frac{\sin 38^\circ}{12}$

$x = 10.33$

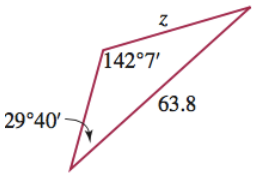
Find the missing sides for the following triangles



$x = 8.51$

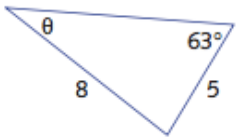


$x = 6.90$

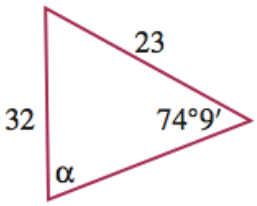


$z = 51.43$

Find the missing angles for the following triangles



$\theta = 33^o50'$



$\alpha = 43^o45'$