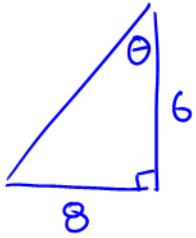


3.1b Tangent Ratio

Example 1

Finding the tangent if you know 2 sides



Find $\tan \theta$

$$\tan \theta = \frac{\text{opp}}{\text{adj}}$$

$$= \frac{8}{6}$$

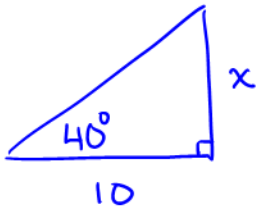
$$= \frac{4}{3}$$

* fraction or decimal

* may use pythagoras

Finding a missing side

eg

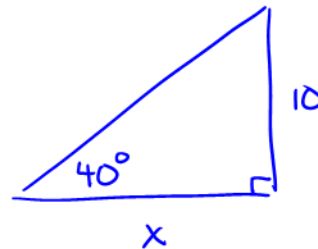


$$\tan \theta = \frac{\text{opp}}{\text{adj}}$$

$$\tan 40^\circ = \frac{x}{10}$$

$$10(\tan 40^\circ) = x$$

$$x = 8.39$$



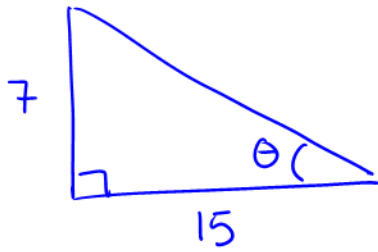
$$\tan \theta = \frac{\text{opp}}{\text{adj}}$$

$$\tan 40^\circ = \frac{10}{x}$$

$$x = \frac{10}{\tan 40^\circ}$$

$$x = 11.92$$

Finding missing angle.



$$\tan \theta = \frac{O}{A}$$

$$\tan \theta = \frac{7}{15}$$

$$\theta = \tan^{-1}\left(\frac{7}{15}\right)$$

$$\theta = 25.01^\circ$$

HW p107 #1-15