

7 Use the Pythagorean theorem to calculate the length of the missing leg:

$$13^2 = 12^2 + l^2 \Rightarrow l^2 = 169 - 144 \Rightarrow l^2 = 25 \Rightarrow l = 5$$

$$\sin \theta = \frac{12}{13}$$

$$\cos \theta = \frac{5}{13}$$

$$\tan \theta = \frac{12}{5}$$

$$\csc \theta = \frac{13}{12}$$

$$\sec \theta = \frac{13}{5}$$

$$\cot \theta = \frac{5}{12}$$