

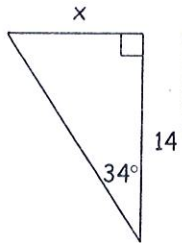
ometry
 Homework - Solving Right Triangles

missing $\angle \Rightarrow$ USE INVERSE
 $\sin^{-1}, \cos^{-1}, \tan^{-1}$
 missing side $\Rightarrow \sin, \cos, \tan$

Name: Key
 Date: _____

YOU MUST SHOW THE TRIG RATIO! Use the trig functions and their inverses to find the missing sides or angles. Round all lengths to the nearest hundredth (5.23 feet) and all angles to the nearest degree (47°).

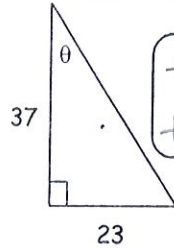
1. 9.44



$$\tan 34 = \frac{x}{14}$$

$$x = 14 \tan 34$$

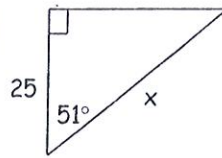
2. 32°



$$\tan \theta = \frac{23}{37}$$

$$\tan^{-1}\left(\frac{23}{37}\right) = \theta$$

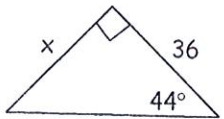
3. 39.73



$$\cos 51 = \frac{25}{x}$$

$$x = \frac{25}{\cos 51}$$

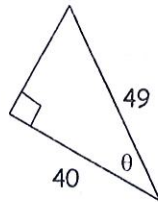
4. 34.76



$$\tan 44 = \frac{x}{36}$$

$$x = 36 \tan 44$$

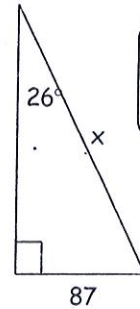
5. 35°



$$\cos \theta = \frac{40}{49}$$

$$\cos^{-1}\left(\frac{40}{49}\right) = \theta$$

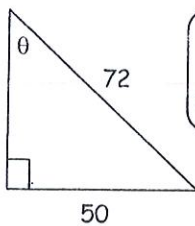
6. 198.46



$$\sin 26 = \frac{87}{x}$$

$$x = \frac{87}{\sin 26}$$

7. 44°



$$\sin \theta = \frac{50}{72}$$

$$\sin^{-1}\left(\frac{50}{72}\right) = \theta$$

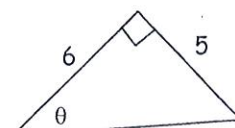
8. 6.80



$$\sin 18 = \frac{22}{x}$$

$$x = 22 \sin 18$$

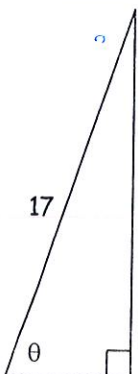
9. 40°



$$\tan \theta = \frac{5}{6}$$

$$\tan^{-1}\left(\frac{5}{6}\right) = \theta$$

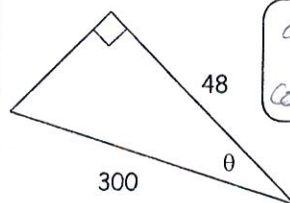
10. 80°



$$\cos \theta = \frac{3}{17}$$

$$\cos^{-1}\left(\frac{3}{17}\right) = \theta$$

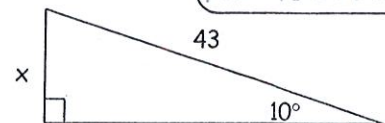
11. 81°



$$\cos \theta = \frac{48}{300}$$

$$\cos^{-1}\left(\frac{48}{300}\right) = \theta$$

12. 7.47



$$\sin 10 = \frac{x}{43}$$

$$x = 43 \sin 10$$