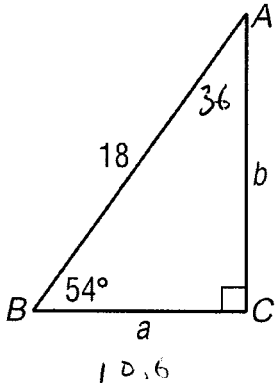


Unit 9 Review (Trig)Name Key Hr. _____

Show ALL work for each problem.

1. Solve the triangle. Round measures of sides to the nearest tenth and measures of angles to the nearest degree.



$$\sin 36 = \frac{a}{18}$$

$$18 \sin 36 = 10.6$$

$$\cos 36 = \frac{b}{18}$$

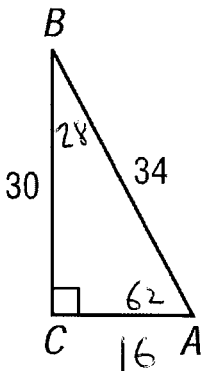
$$18 \cos 36 = 14.6$$

1. $m\angle A = \underline{36^\circ}$

$$a = \underline{10.6}$$

$$b = \underline{14.6}$$

2. Solve the triangle. Round measures of sides to the nearest tenth and measures of angles to the nearest degree.



$$30^2 + x^2 = 34^2$$

$$x^2 = 34^2 - 30^2$$

$$x^2 = 256$$

$$x = 16$$

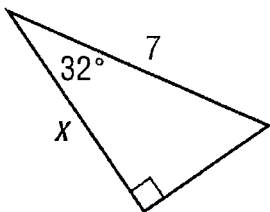
$$\tan^{-1}\left(\frac{30}{16}\right) = 62$$

2. $m\angle A = \underline{62^\circ}$

$$m\angle B = \underline{28^\circ}$$

$$b = \underline{16}$$

3. Write an equation involving sine, cosine, or tangent that can be used to find x . Then solve the equation, rounding to the nearest degree.



$$\cos 32 = \frac{x}{7}$$

$$7 \cos 32 = 5.94$$

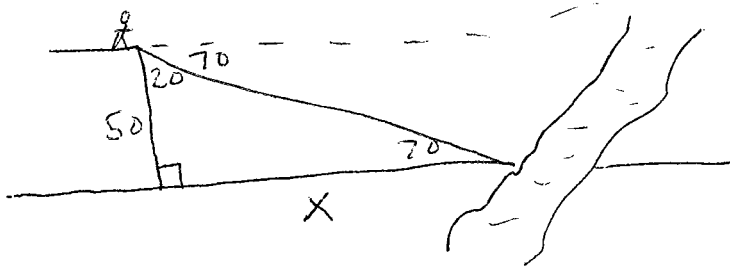
3. Equation: $\underline{\cos 32 = \frac{x}{7}}$

$$x = \underline{5.9}$$

Algebra 2A

4. From the top of a cliff, a geologist spots a dry riverbed. The measurement of the angle of depression to the riverbed is 70° . The cliff is 50 meters high. How far is the riverbed from the base of the cliff?

4. 18.2 m



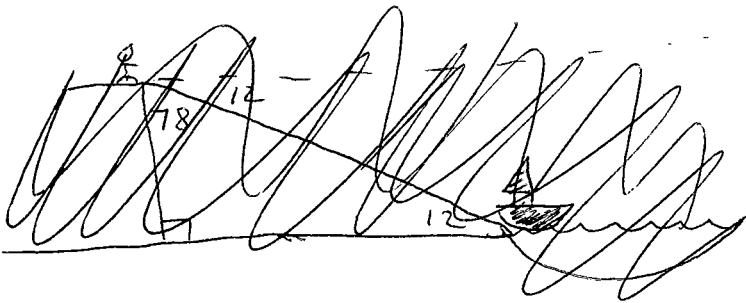
~~50~~

$$\tan 20 = \frac{x}{50}$$

$$50 \tan 20 = 18.2$$

5. From a lookout point on a cliff above a lake, the angle of depression is 12° . The boat is 3 kilometers from the shore just below the cliff. What is the height of the cliff from the surface of the water to the lookout point?

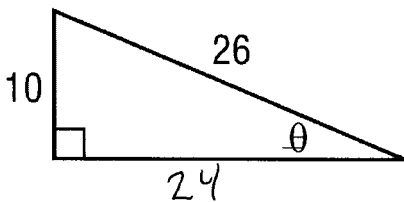
5. 0.64 km



$$\tan 12 = \frac{x}{3}$$

$$3 \tan 12 = .64$$

6. Find the **exact value** of the six trigonometric functions for θ shown in the figure below.



$$\sin \theta = \frac{10}{26} \left(\frac{5}{13} \right)$$

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

$$\cos \theta = \frac{24}{26} \left(\frac{12}{13} \right)$$

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

$$\tan \theta = \frac{10}{24} \left(\frac{5}{12} \right)$$

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

$$10^2 + x^2 = 26^2$$

$$x^2 = 26^2 - 10^2$$

$$x^2 = 576 \quad x = 24$$