

Trigonometry

Name: _____

Study Guide 7

Class: _____

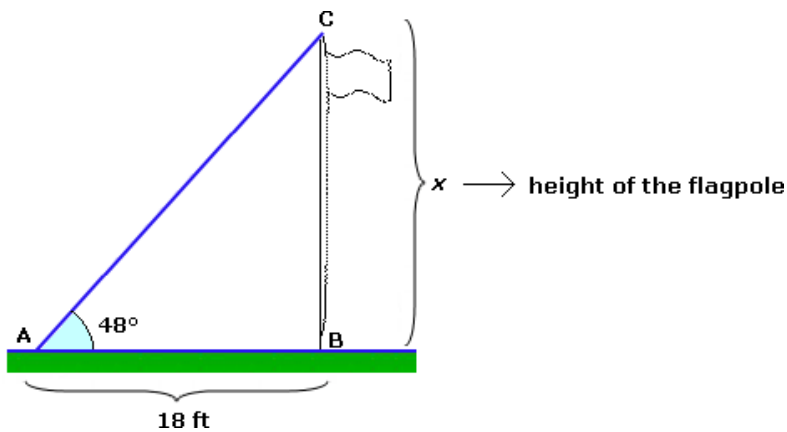
Due Date: _____

Score: _____

No Work \Leftrightarrow No Points

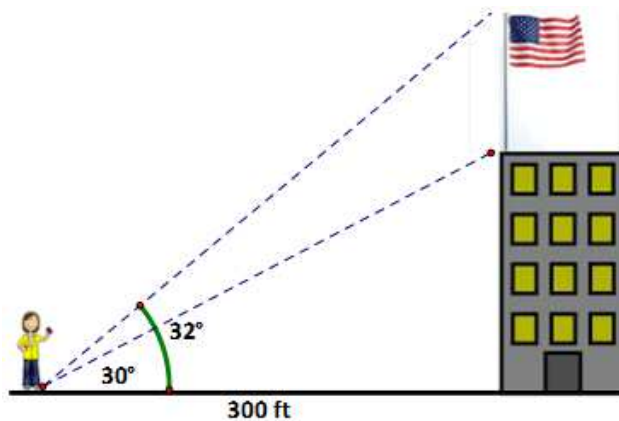
Use Pencil Only \Leftrightarrow Be Neat & Organized

1. (4 points) Find the height of the flagpole using the drawing below.



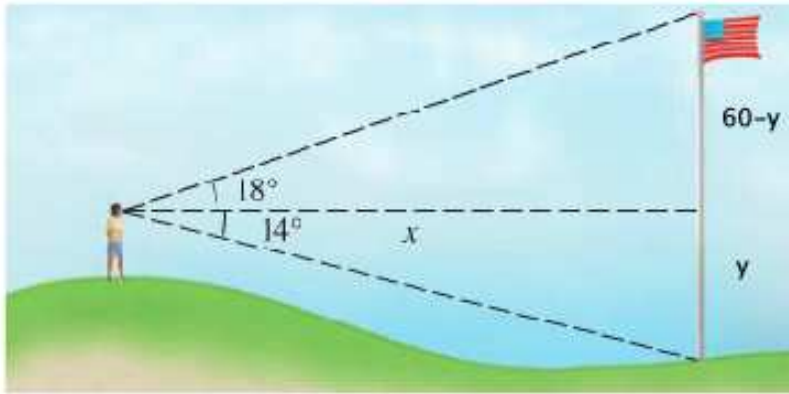
1. _____

2. (5 points) Find the height of the flagpole using the drawing below.



2. _____

3. (5 points) Find the distance from the observer to the flagpole using the drawing below.



3. _____

4. (5 points) The angle of depression from the top of a television tower to a point on the ground 36 m from the bottom of the tower is 32° . Find the height of the tower. Round your final answer to a whole number. Drawing required.

4. _____

5. (5 points) The angle of elevation from the street to the top of a building that is 25 ft away is 75° . Find the height of the building. Round your final answer to a whole number. Drawing required.

5. _____

6. (4 points) Simplify: $\frac{\cos^3 x - \sin^3 x}{\cos^2 x - \sin^2 x} - \frac{1 + \sin x \cos x}{\cos x + \sin x}$

6. _____

7. (4 points) Verify: $\frac{\sin x}{1 - \sin x} + \frac{\sin x}{1 + \sin x} = 2 \tan x \cdot \sec x$

7. _____

8. (3 points) Consider the triangle ABC with $a = 12.8\text{cm}$, $b = 6.2\text{cm}$ and $C = 123^\circ$, Find its area. Drawing Required.

8. _____

9. (3 points) Consider the triangle ABC with $b = 8\text{cm}$, $c = 10\text{cm}$ and $A = 75^\circ$, Find its area. Drawing Required.

9. _____

10. (3 points) Convert 165° to radians. Final answer must be exact and using π notation.

10. _____

11. (3 points) Convert $\frac{23\pi}{12}$ to degrees.

11. _____

12. (3 points) Given $\tan \alpha = \frac{2}{3}$ and $0 < \alpha < \pi/2$, find the value of all five remaining trigonometric functions of the angle α .

12. _____

13. (3 points) Given $\cos \alpha = \frac{3}{5}$ and $\frac{3\pi}{2} < \alpha < 2\pi$, find the value of all five remaining trigonometric functions of the angle α .

13. _____