Algebra II Name _____

Trigonometry 1

Solve the following triangles given the following.

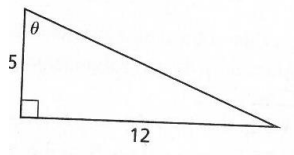
1. Right triangle ABC, with right angle C, has side b = 9 and Angle A = 36º.

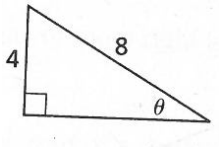
2. Right triangle ABC, with right angle C, has side a = 21 and Angle A = 53º.

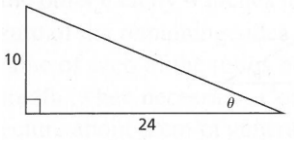
3. Right triangle ABC, with right angle B, has side b = 17 and side a = 7.

4. Right triangle ABC, with right angle A, has side b = 9 and side c = 13.

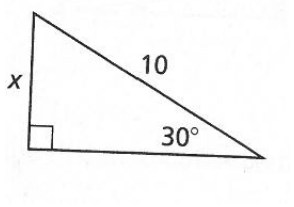
Find sin(θ), cos(θ) and tan(θ) for each of the following triangles.

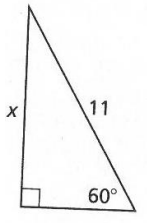
5. 

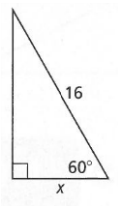
6. 

7. 

Find the value of x for the following right triangles.

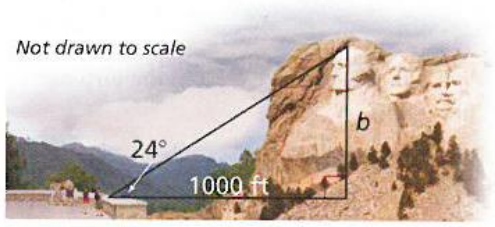
8. 

9. 

10. 

11. Katoomba Scenic Railway in Australia is the steepest railway in the world. The railway makes an angle of about 52º with the ground. The railway extends horizontally about 458 feet. What is the height of the railway?

12. You are standing on the Grand View Terrace viewing platform at Mount Rushmore, 1000 feet from the base of the monument.



a. You look up at the top of Mount Rushmore at an angle of 24º. How high is the top of the monument from where you are standing? Assume your eye level is 5.5 feet above the platform.

b. The elevation of the Grand View Terrace is 5280 feet. Use your answer in part (a) to find the elevation of the top of Mount Rushmore.

Solve the following.

13. Given that $\tan(\theta) = -\frac{12}{5}$ and θ is an angle in QII, find sin(θ) and cos(θ).

14. Given that $\cos(\theta) = \frac{24}{25}$ and θ is an angle in QIV, find sin(θ) and tan(θ).

15. Given that $\sin(\theta) = -\frac{15}{17}$ and θ is an angle in QIII, find cos(θ) and tan(θ).