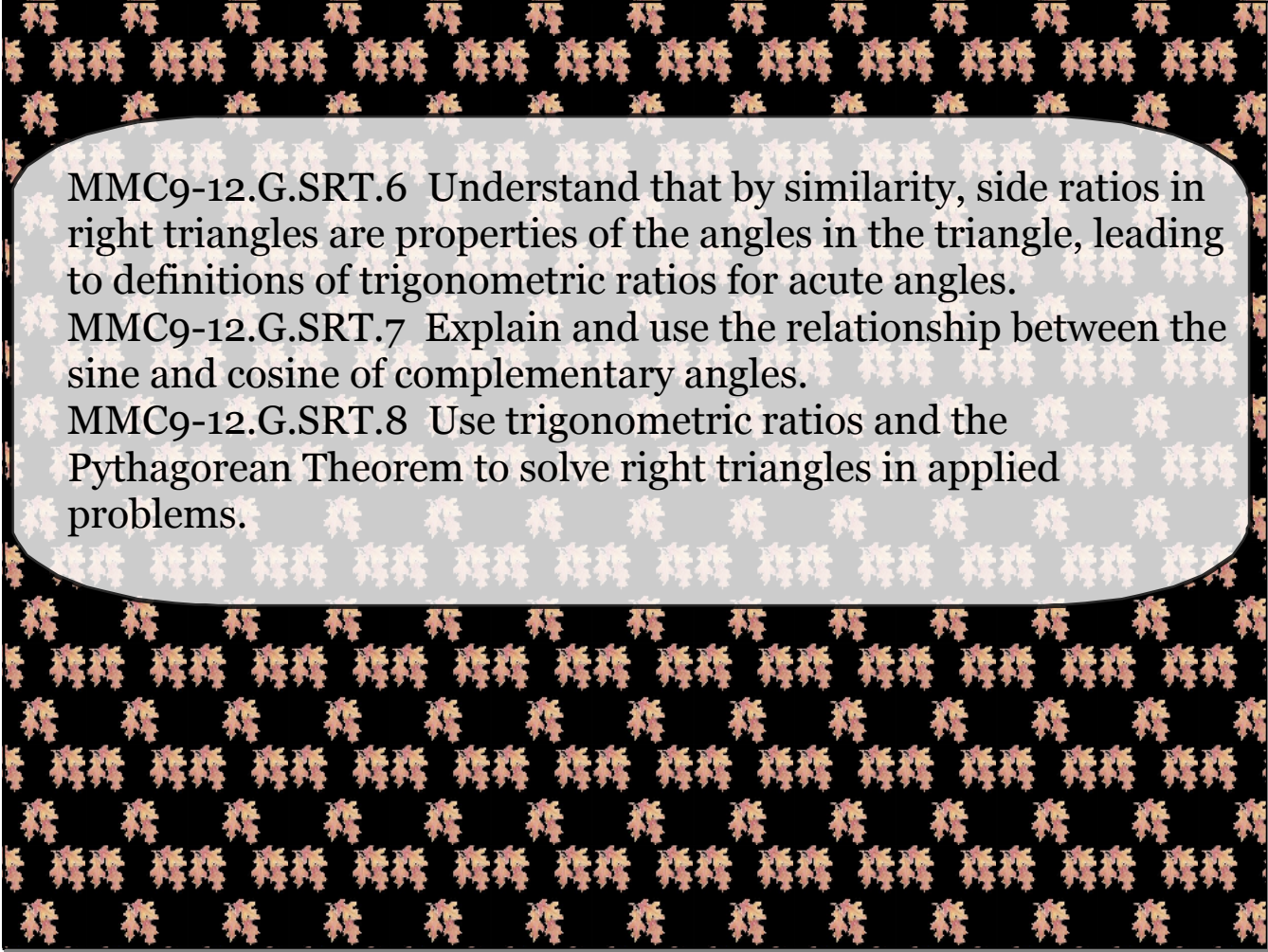*Analytic Geometry*   March 14, 2016

Today we will review for the test over Right Triangles!!

Oct 28-10:11 AM

MMC9-12.G.SRT.6 Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.
MMC9-12.G.SRT.7 Explain and use the relationship between the sine and cosine of complementary angles.
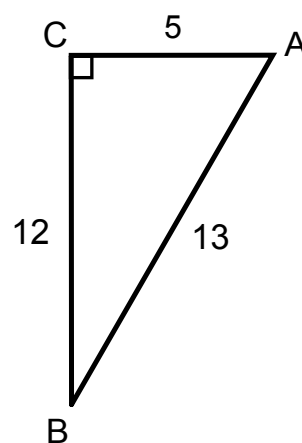MMC9-12.G.SRT.8 Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.

Oct 31-9:31 AM

Write each ratio using the figure to the right.

1. $\sin A = \dfrac{12}{13}$

2. $\tan B = \dfrac{5}{12}$

3. $\cos A = \dfrac{5}{13}$

4. $\cos B = \dfrac{12}{13}$

Use the calculator to fill in the missing blanks.

5) cos __31__ = .8572

6) sin __16__ = .2756

7) tan __56__ = 1.4826

8) tan 5° = __.0875__

9) sin 48° = __.7431__
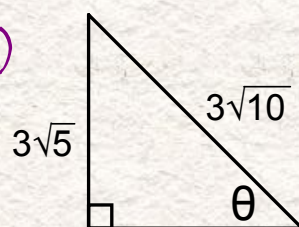
10) cos 83° = __.1219__

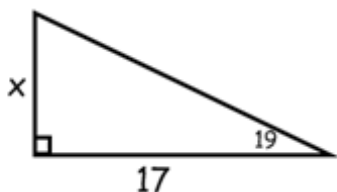Find the lengths or angle measure of the triangle. Use Special Right Triangles where they apply.

11)
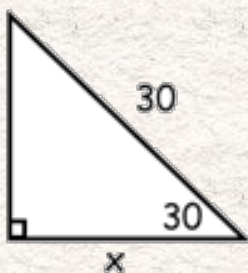
$x = 15\sqrt{3} \approx 25.98$

12)

x = 45°

13)

$x = 5.9$

14)
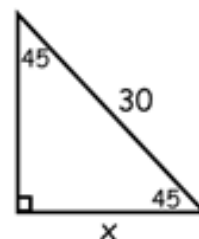
$x = 15\sqrt{2}$

15)

x = 6√3 ≈ 10.39

16)

$\theta = 53^{o}$

Oct 31-11:19 AM
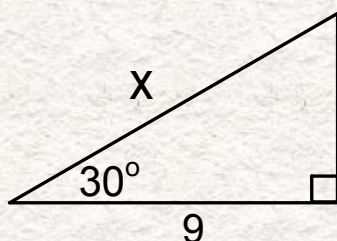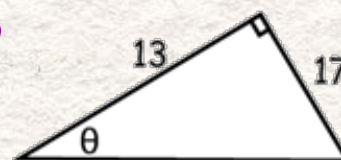
17)

At a certain time of day, a basketball backboard cast a shadow that is 35 feet long. If the angle of elevation to the sun is 25 degrees, what is the height of the backboard?

16.3 Feet

Oct 31-11:28 AM

18)

If a yield sign is an equilateral triangle with sides that are 13 inches long, what is the length of the altitude of the sign?

$$6.5\sqrt{3} \approx 11.26$$

19)

If a boat is towing a parasail by a rope that is 125 feet long and the parasail is 50 feet high, what is the angle of depression from the parasail to the boat?

24°

20) A telephone pole support cable is attached to a pole that is 15 feet high. If the distance from the base of the pole to where the cable attaches to the ground is 20 feet, what angle does the cable form with the ground?

$$\theta = 53°$$

21)

A skateboard ramp has a rise of 3 meters and a run of 15 meters. What is the angle of elevation for the ramp?

11°

22)

A ladder is resting against the side of a house on a window sill. If the ladder is 30 feet long and the distance from the base of the ladder to the bottom of the house is 15 feet, what is the angle formed between the ladder and the window sill of the house?

30°

23)

At a certain time of day, a tree casts a shadow that is 14 feet long. If the angle of elevation is 21 degrees, how tall is the tree?

5.4

24)

Johnny is flying a kite. If he has six hundred feet of string and he wants to let it all out, how high will the kite be if the angle of elevation is 35 degrees?

344.2

Oct 31-11:40 AM

25)

A park ranger on a 415 foot observation tower spots a fire at an angle of depression of 7 degrees. To the nearest foot, how far is the fire from the base of the tower?

3380

26)

A plane is coming in for a landing at the airport. If the airport is in a direct line of site 12000 miles from the plane and the plane is at an altitude of 8000 miles, what is the angle of depression?

42°

27)

After the take-off from an airport, an airplane's angle of ascent is 12 degrees. The airplane climbs to an altitude of 9 miles. To the nearest hundredth of a mile, what is the horizontal distance between the airplane and the airport?

42.3

28) The sun is at an angle of elevation from ground level of 82 degrees. How long, to the nearest foot, is the shadow of a 1300-foot building?

182.7

Homework:
STUDY FOR YOUR TEST!