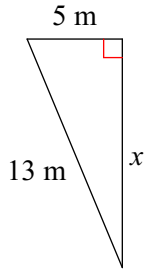
Geometry Honors - Mr. Allen-Black Name_____

Right Triangle Test Review

Date_____ Period____

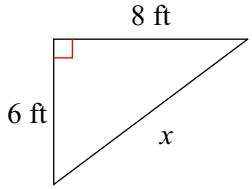
Find the missing side of each triangle. Leave your answers in simplest radical form.

1)



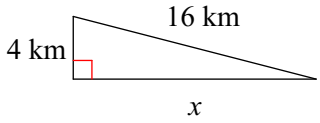
12 m

2)



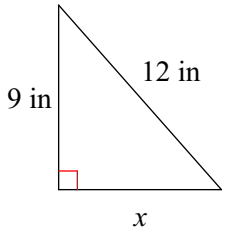
10 ft

3)



$4\sqrt{15}$ km

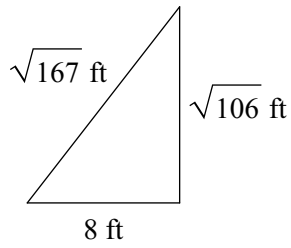
4)



$3\sqrt{7}$ in

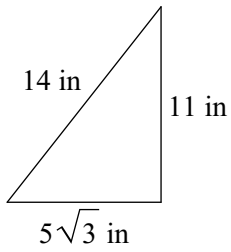
State if each triangle is a right triangle.

5)



No

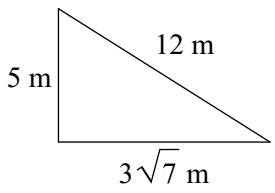
6)



Yes

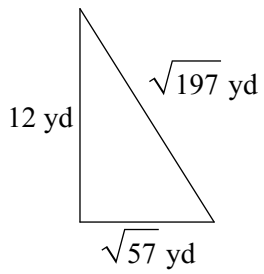
State if each triangle is acute, obtuse, or right.

7)



Obtuse

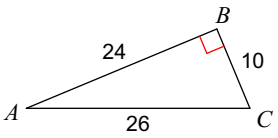
8)



Acute

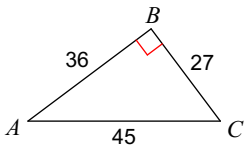
Find the value of each trigonometric ratio.

9) cos *A*



$\frac{12}{13}$

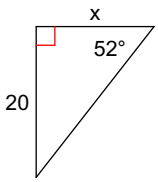
10) sin *C*



$\frac{4}{5}$

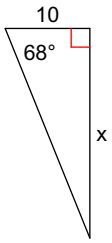
Find the missing side. Round to the nearest tenth.

11)



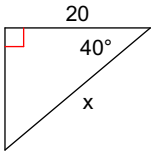
15.6

12)



24.8

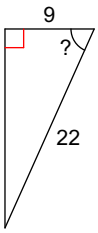
13)



26.1

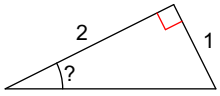
Find the measure of the indicated angle to the nearest degree.

14)



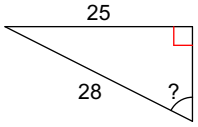
66°

15)



27°

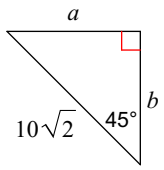
16)



63°

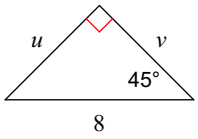
Find the missing side lengths. Leave your answers as radicals in simplest form.

17)



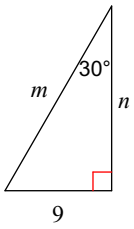
$a = 10,\ b = 10$

18)



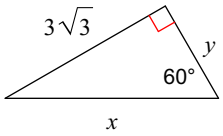
$u = 4\sqrt{2},\ v = 4\sqrt{2}$

19)



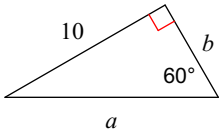
$m = 18,\ n = 9\sqrt{3}$

20)



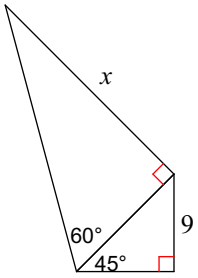
$x = 6,\ y = 3$

21)



$a = \frac{20\sqrt{3}}{3},\ b = \frac{10\sqrt{3}}{3}$

22)



$9\sqrt{6}$

23) A child is standing across the street from his apartment. His mother is on their balcony. The angle of elevation between the child's eyes and his mother's eyes is 22°. If the distance between their eyes is 32 ft, how far is the child standing from his apartment building? Round to the nearest foot.

30 ft. (29.67)

24) You are 55 ft from a tree. The angle of elevation from your eyes, which are 4.5 ft off the ground, to the top of the tree is 61°. To the nearest foot, how tall is the tree?

104 ft. (103.7)

25) Page 4 #1 - Answer: No, it is not a right triangle. There are two options:

1) Slope:

The slope of AB is $\frac{1}{3}$, the slope of BC is $-\frac{9}{5}$, the slope of AC is -5. None of them are opposite reciprocals, so none are perpendicular.

2) Distance formula:

The length of AB is $\sqrt{10}$, The length of AC is $2\sqrt{36}$, and the length of BC is $\sqrt{106}$. These do not work in the pythagorean theorem.

26) Page 4 #2 - Answer- Yes, $6^2 + 8^2 = 10^2$.

27) Page 4 #3 Answer Tan 75° = $\frac{h}{37}$, so h = 138.09 ft.

28) Page 4 # 4 - Answer: Height of A is 85.780. Height of B is 24.995, so *h* is A - B, or 60.786.