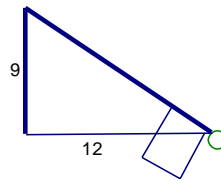


1) The diagonal of a square measures 18 meters. What is the perimeter of the square?

2) A flagpole has cracked 9 feet from the ground and has fallen. The top of the flagpole hit the ground 12 feet from the base. How tall was the flagpole before it fell?



Decide if the measures can be the side lengths of a triangle. If so, classify the triangle as acute, obtuse or right.

3) 10, 12, 16

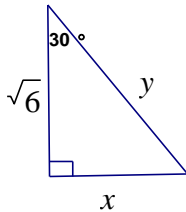
4) 5, 6, 7

5) 1.5, 2, 2.5

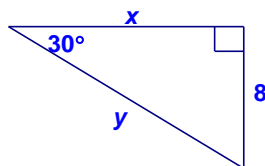
6) 6, 8, 11

Find all the missing sides of each figure.

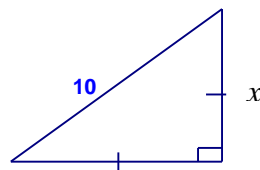
7)



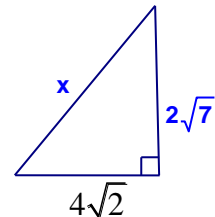
8)



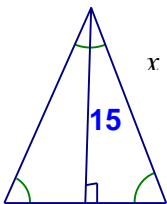
9)



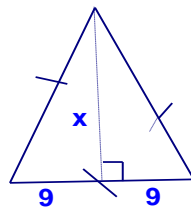
10)



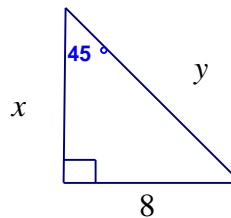
11)



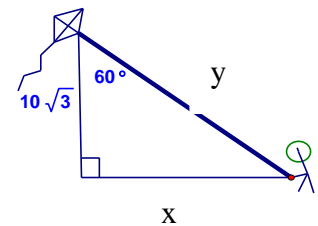
12)



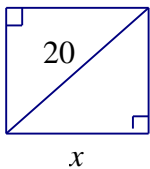
13)



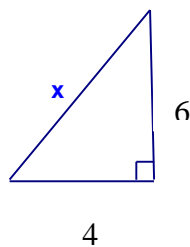
14) Find the length of the string



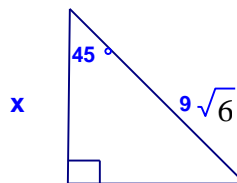
15)



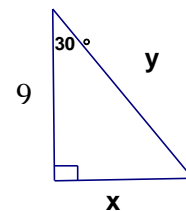
16)



17)



18)



Simplify Radicals

19) $(5x\sqrt{18y^4})(2y\sqrt{5xy^5})$

20) $\frac{4c\sqrt{27bc^3}}{\sqrt{2c^2}}$

21) Rationalize, $\frac{5}{\sqrt{5}}$

Tell whether each set of values could be the sides of a 45-45-90 or 30-60-90, or neither. Be careful since the values are not necessarily simplified nor in any order.

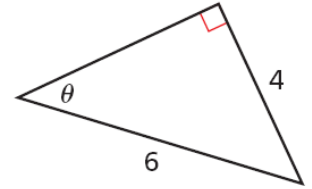
22) $\sqrt{50}, \sqrt{150}, 10\sqrt{2}$

23) $2\sqrt{4}, \sqrt{16}, 2\sqrt{8}$

24) $2\sqrt{3}, 2\sqrt{6}, 4$

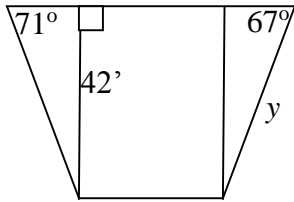
25) If the perimeter of an equilateral triangle is 42 inches, what is the area of the triangle?

26) Identify all the trig three main functions and missing side of θ .

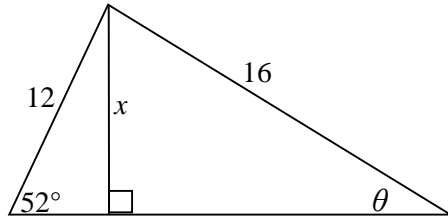


Solve each problem. You will need to use your own paper. Round to 2 decimal places and remember to round side lengths to 4 decimal places and angles on the test.

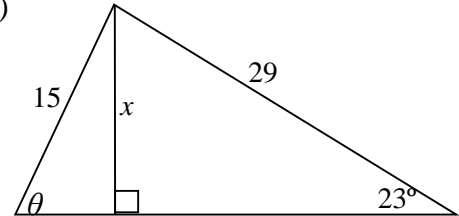
27) Find x and y



28)

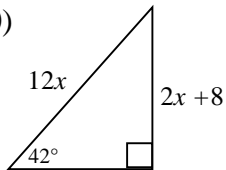


29)

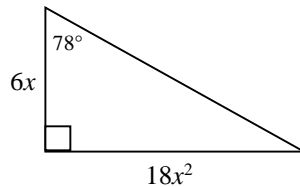


Solve for x .

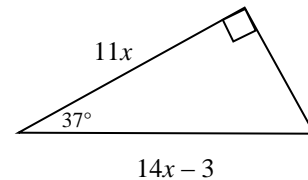
30)



31)

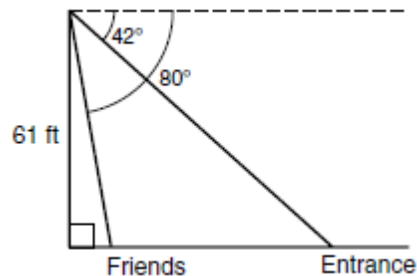


32)



33) A tree casts a shadow of 28 m. The elevation of the sun is 49° . How tall is the tree?

34) Shane is 61 feet high on a ride at an amusement park. The angle of depression to the park entrance is 42° , and the angle of depression to his friends standing below is 80° . How far from the entrance are his friends standing?



35) A 30 foot tree broke from its base and fell against a house. If the tree hit the house 18 feet above the ground, what angle is the tree forming with the house?

36) Lauren is at the top of a 15 m lookout tower. From an angle of depression of 25° , she sees Evan coming toward her. How far is Evan from the base of the tower?

37) Rosalinda has a rocket that can travel 1500 feet before exploding. On the 4th of July, she lights the rocket at an elevation of 75° . How high will the rocket be when it explodes?

38) Mark has two sticks, 25 in. and 20 in. If he places them end to end perpendicularly, what two acute angles would be formed when he added the hypotenuse?