

MAT 142 – Test #6 Review

1. A triangle has sides with lengths 4 in, 6 in, and 7in. What is the triangle's area?
2. In a right triangle with a 60° angle, the side opposite the 60° angle has length $7\sqrt{3}$ cm. What is the length of the hypotenuse?
3. A circular piece of wood of diameter 3 meters is cut in half. What are the area and perimeter of one of the resulting semicircles?
4. A circular swimming pool is situated in a rectangular yard. The whole yard's dimensions are 45 feet by 55 feet. The diameter of the swimming pool is 30 feet. What is the area of the yard remaining aside from the swimming pool?
5. One 60 lb bag of cement mix costs \$7, and it takes 3 bags to make 1 cubic foot of cement. Suppose you want to re-do the driveway at your house, and it is 30 feet by 9 feet, and building codes require the cement to be 6 inches ($\frac{1}{2}$ foot) thick. How much would it cost you to buy the cement?
6. A ladder leans against a building, with it's base 4 feet from the building. If it's a 15-foot ladder, how high up the side of the building does it reach?
7. You went jogging in a large park. You first jogged $1\frac{1}{2}$ mile south, then 2 miles east, then jogged straight back to your starting point. How far did you jog all together?
8. When you are standing 900 feet away from the base of the Sears tower, the angle of elevation to the top of the building is 58.19° . How tall is the building?
9. You have a spherical beach ball that has a 75 inch circumference when inflated. What volume of air does it take to fill the ball completely?