**Solving Two-Step Equations with the Square Root Property**

1. The surface area of a cube with edge *e* is given by the formula $S=6e^{2}$*.* Find the edge of a cube, to the nearest tenth of a cm, with a surface area of 360 cm2.

a. Write an equation to solve this problem.

b. Solve the equation. (You may find 2 solutions.)

c. Answer the question.

1. If an object, such as a ball, is released from a location above the ground, the distance it travels is a function of the time that has elapsed. This is represented by the formula $d=16t^{2}$ where *d* is distance measured in feet and *t* is time measured in seconds. Find how much time it will take the released object to travel 320 feet.

a. Write an equation to solve this problem.

b. Solve the equation.

c. Answer the question.

1. The area of a circle is given by the formula  where *r* is the radius of the circle. Find the radius of a circle with area 100 m2.

a. Write an equation to solve this problem.

b. Solve the equation.

c. Answer the question.

1. The Pythagorean Theorem states that for a right triangle, $c^{2}=a^{2}+b^{2}$. Remember that *c* is length of the hypotenuse and *a* and *b* are lengths of the two legs of the triangle. Find *b* in the right triangle shown below.

a. Substitute the given values for *a* and *c* to create an equation.

b. Solve the equation.

c. Answer the question.

1. In problems 1 – 4 there should be two solutions to each of the equations in part (b) but only one answer to each of the questions in part (c). Explain.



1. Here is a flow chart showing how to solve the equation in problem 1 by “undoing.” Make similar flow charts for problems 2 and 3.