

Applications—Quadratic Equations

Consecutive integers: Remember that integers are only negative and positive “whole numbers”. They do not include any decimals or fractions.

Two consecutive integers: $x, x+1$

Two consecutive **odd** integers: $x, x+2$

Two consecutive **even** integers: $x, x+2$

Reciprocals: If the number is x , then its reciprocal would be $\frac{1}{x}$.

Define the variable. Write an equation. Solve.

1. Find two consecutive positive integers whose product is 132.

2. Find two consecutive odd integers whose product is 35.

3. The sum of the squares of two even consecutive integers is 340. Find the integers.

4. The sum of a number and its reciprocal is 6. What is the number?

5. Three times the square of a number is 6 more than twice the number. What is the number?

Area:

Rectangle: Area = *base x height* or Area = *length x width*.

Triangle: Area = $\frac{1}{2}$ *base x height* or **2** * Area = *base x height*

6. The area of a rectangle is 35 sq. ft. The length is 1 ft. less than twice the width. What are the dimensions of the rectangle?

7. The height of a triangle is 2 in. more than three times the base. Find the base and the height if the area of the triangle is 5 sq. in.

Work:

$$\frac{1}{\text{time alone}} + \frac{1}{\text{time alone}} = \frac{1}{\text{time together}}$$

8. One pipe can fill a reservoir 2 hours faster than another pipe can. Together they fill the reservoir in 5 hours. How long does it take each pipe to fill the reservoir?