

**MAT 111 - College Algebra**  
**Section 1.3 - Examples**

1. Write an algebraic expression for the verbal description:

(a) The product of two consecutive natural numbers.

(b) The sum of the square of two consecutive even integers the first of which is  $2n$ .

Solve the following problems:

2. The sum of three consecutive natural numbers is 804. Find the numbers.

3. One positive number is  $\frac{1}{5}$  of another number. The difference between the two numbers is 76. Find the numbers.

4. A salesperson's weekly paycheck is 15% less than her coworker's paycheck. The two paychecks total \$645. Find the amount of each paycheck.

5. A picture frame has a total perimeter of 2 meters. The height of the frame is 0.62 times its width.
- Draw a diagram that represents the problem. Identify the width as  $w$  and the height as  $h$ .
  - Write  $h$  in terms of  $w$  and write an equation for the perimeter in terms of  $w$ .
  - Find the dimensions of the picture frame.
6. Two cars start at an interstate interchange and travel in the same direction at average speeds of 40 m/hr and 55 m/hr. How much time must elapse before the two cars are 5 miles apart?
7. Volume of a right cylinder is  $V = \pi r^2 h$ . Solve for  $h$ .