

Consecutive Integers

Definition: Consecutive integers are numbers that follow one another in order, with no numbers skipped. For example, 4, 5, 6 are consecutive integers.

• Consecutive integers: $x, x+1$

• Consecutive even or odd integers: $x, x+2, x+4, \dots$

Solve. $x + (x+1) + (x+2)$

1) The sum of two consecutive integers is 57. Find them. $x+y=57$

$$x + (x+1) = 57$$

$$\begin{array}{r} 2x = 56 \\ \underline{2} \\ x = 28 \end{array}$$

$$y = x + 1$$

$$2 + 1 = 3$$

$$(28, 29)$$

2) The sum of three consecutive even integers is 96. Find them.

$$x + (x+2) + (x+4) = 96$$

$$\begin{array}{r} 3x + 6 = 96 \\ \underline{-6} \\ 3x = 90 \end{array}$$

$$x = 30, 32, 34$$

3) The product of four consecutive odd positive integers is 945. Find them.

$$x(x+2)(x+4)(x+6) = 945$$

4) The largest of three consecutive even integers is three times the smallest. Find them.

$$x = \text{smallest} \quad x + (x+2) + (x+4)$$

$$\begin{array}{r} 3x = x + 4 \\ \underline{-1x} \\ 2x = 4 \end{array}$$

$$\begin{array}{r} 2x = 4 \\ \underline{2} \\ x = 2 \end{array}$$

$$x = 2$$

$$(2, 4, 6)$$