Math 107

Spring 2017

Lecture 7

Lisa bought 60 pens. Some blue, and some red. the # of red pens was 3 more than twice the # of blue pens. How many of each?

Blue + Red = 60

$x + 2x + 3 = 60$

$3x + 3 = 60$

$3x = 60 - 3$

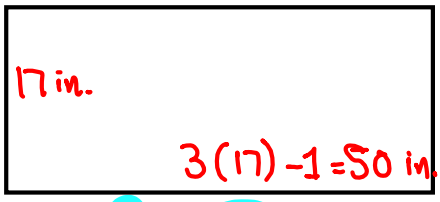
$3x = 57$

$x = \frac{57}{3}$ $x = 19$

19 Blue Pens
&
41 Red Pens.

Perimeter of a rectangle is 134 inches. Its length is 1 inch shorter than 3 times its width. Find its dimensions.

$W = x$



$L = 3x - 1$

$P = 134$

$2L + 2W = 134$

$2(3x-1) + 2(x) = 134$

$6x - 2 + 2x = 134$

$8x - 2 = 134$

$8x = 134 + 2$

$8x = 136$

$x = \frac{136}{8}$

$x = 17$

17 in. by 50 in.

Ch. 6 Consecutive Integers

7, 8, 9, 10, ...

91, 92, 93, 94, ...

−37, −36, −35, −34, ...

$x, x+1, x+2, x+3$

The sum of three consecutive integers is 72. Find the largest one.

$\rightarrow x, x+1, x+2$

First + Second + Third = 72

$x + x+1 + x+2 = 72$

$3x + 3 = 72$

$3x = 72 - 3$

$3x = 69$

$\rightarrow x = \frac{69}{3}$ $\boxed{x = 23}$

Largest one is 25.

Find two consecutive integers such that 3 times the smallest one is equal to 83 more than the largest one.

x & $x+1$

$3 \cdot 42 = 43 + 83$

$3 \cdot \text{Smallest} = \text{Largest} + 83$

$3x = x + 1 + 83$

$3x = x + 84$

$3x - x = 84$

$2x = 84$

$\rightarrow x = \frac{84}{2}$

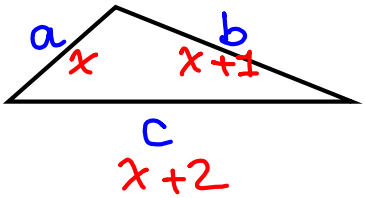
$x = 42$

42 & 43

Perimeter of a triangle is 39m.

Sides are 3 cons. integers. Find all three sides.

$\boxed{a} + \boxed{b} + \boxed{c} = 39$



$x + x+1 + x+2 = 39$

$3x + 3 = 39$

$3x = 39 - 3$

$3x = 36$

$x = \frac{36}{3}$ $\quad x = 12$

12m, 13m, and 14m.

Consecutive Even integers

16, 18, 20, 22, ...

34, 36, 38, ...

100, 102, 104, 106, ...

$x, x+2, x+4, x+6, \ldots$

It has to be even.

The sum of two consecutive even integers is 98. Find the largest one.

$\rightarrow x$ & $x+2$

$x + x + 2 = 98$

$2x + 2 = 98$

$2x = 98 - 2$

$2x = 96$

$\rightarrow x = \frac{96}{2}$ $\quad x = 48$

Largest one is 50.

Find two consecutive even integers such that 5 times the smallest reduced by the largest is equal to 46.

$\rightarrow x$ & $x+2$

$5 \cdot \text{Smallest} - \text{largest} = 46$

$5 \cdot \boxed{x} - (x+2) = 46$

$5x - (x+2) = 46$

$5x - x - 2 = 46$

$\rightarrow 4x - 2 = 46$

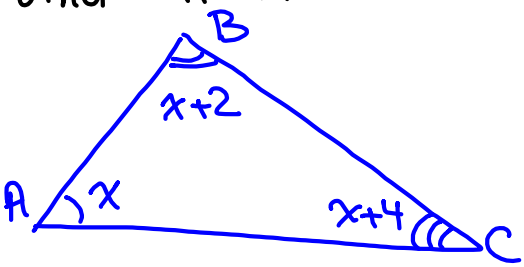
$4x = 46 + 2$

$4x = 48$

$x = \frac{48}{4}$ $\quad x = 12$

12 & 14

In triangle ABC, the measure of all 3 angles are three Consecutive even integers. Find all three. Hint: $\angle A + \angle B + \angle C = 180^\circ$



$x + x+2 + x+4 = 180^\circ$

$3x + 6 = 180$

$3x = 180 - 6$

$3x = 174$

$x = 58$

58°, 60°, and 62°

Consecutive odd integers

17, 19, 21, 23, ...

93, 95, 97, 99, ...

−35, −33, −31, ...

x, $x+2$, $x+4$

It has to be odd.

the sum of two consecutive odd integers is 100. Find both integers.

$\boxed{x} + \boxed{x+2} = 100$

First one Next one

$2x + 2 = 100$

$2x = 98$

$x = 49$

work on WP 5 & 6.

49 & 51