Coordinate Algebra Practice Solving Equations

Name: _____ Date: _____

Solving Linear Equations and Inequalities

1. The sum of 14 and twice a number is 70. What is the number?

$2x + 14 = 70$
$-14 \quad -14$
$2x = 56 \quad x = 28$

2. A number subtracted from 68 is 54. What is the number?

$68 - x = 54$
$-68 \quad -68$
$-x = -14$
$x = 14$

3. The sum of two consecutive integers is 161. Find the consecutive integers.

1st = x
2nd = x+1
3rd = x+2
4th = x+3

3, 4, 5, 6
+1 +1 +1
+3

$(x) + (x+1) = 161$
$2x + 1 = 161$
$-1 \quad -1$
$2x = 160$
$x = 80, 81$

4. Find three consecutive integers whose sum is 72. Find the largest number.

$x + x + 1 + x + 2 = 72$
$3x + 3 = 72$
$-3 \quad -3$
$3x = 69$
$x = 23, 24, 25$

5. The sum of three consecutive even integers is 54. Find the three consecutive even numbers.

1st = x
2nd = x+2
3rd = x+4

4, 6, 8
x
+2 +4

$x + x+2 + x+4 = 54$
$3x + 6 = 54$
$-6 \quad -6$
$\frac{3x}{3} = \frac{48}{3}$
$x = 16, 18, 20$

$P = 2l + 2w$

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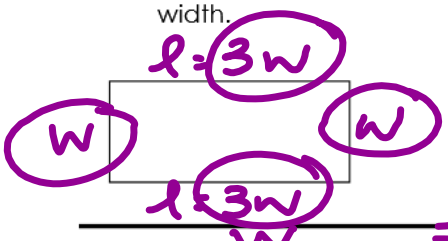
$l = 3w$ $P = 40$ $w = ?$

6. The length of a rectangle is triple the width. Its perimeter is 40m. Find the length and width.



$40 = 2(3w) + 2w$

$40 = 6w + 2w$

$\frac{40}{8} = \frac{8w}{8}$

$l = 15$

$w = 5$

$= l - 6$

7. The width of a rectangle is 6 inches less than the length. If the perimeter is 84 inches, what is the length and width?

$w = l - 6$

$P = 84$

$l = ?$

$2l + 2w = P$

$2l + 2(l-6) = 84$

$2l + 2l - 12 = 84$

$4l - 12 = 84$

$4l = 96$

$w = 18$ in $l = 24$ in

8. Your first four biology test grades were 64, 76, 82 and 68. In order to pass the class with an average of at least 70, what must your fifth test score be?

$x =$ 5th test

$$\frac{64 + 76 + 82 + 68 + x}{5} = 70$$

$$5 \cdot \frac{290 + x}{5} = 70 \cdot 5$$

$290 + x = 350$

$-290 \quad -290$

$x = 60$

9. You are only allowed to work on an average of 20 hours per week during school each month. If you worked 16 hours week one, 25 hours week two, and 17 hours week 3, how many hours can you work the last week to keep the average 20 hours per week?