1. You are given the simple interest formula $I = Prt$ where I is the simple interest earned by principle p at an annual interest rate r over t years. You deposit $250 in a bank account that pays an annual interest rate of 2%. How much simple interest will you earn after two years?

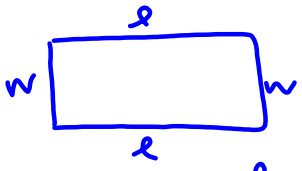
$I = ?$ $r = 2\% = .02$

$P = 250$ $t = 2$ $I = 250(.02)2$

$I = \$10$

Perimeter:

Add all the sides



$P = w + w + l + l$

$P = 2w + 2l$

Average:

Add all the numbers & divide by the total.

$$\text{Avg.} = \frac{\# + \# + \#}{3}$$

Consecutive:

numbers next to each other.

ex; 2, 3, 4

1st = x

2nd: x + 1

3rd: x + 2

Consecutive Odd Numbers

ex; 1, 3, 5, 7...

1st = x

2nd = x + 2

3rd = x + 4

Consecutive Even #

ex. 4, 6, 8, 10, ...

1st = x

2nd: x + 2

3rd = x + 4

1. The sum of 38 and twice a number is 124. Find the number.

+ 2x =

$38 + 2x = 124$

$-38 \quad -38$

$\frac{2x}{2} = \frac{86}{2}$

$x = 43$

2. The sum of two consecutive integers is 83. Find the pair of integers with the greatest sum.

41 + 42

1st = x

2nd = x + 1

x + x + 1 = 83

2x + 1 = 83

−1 −1

2x = 82

2 2

x = 41

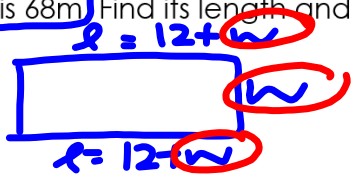
$\ell = 12 + w$

3. A rectangle is 12m longer than it is wide. Its perimeter is 68m. Find its length and width.

$w = 11$
$\ell = 23$

$\ell = 12 + w$
$P = 68$
$w = w$
$\ell = 4 + w$

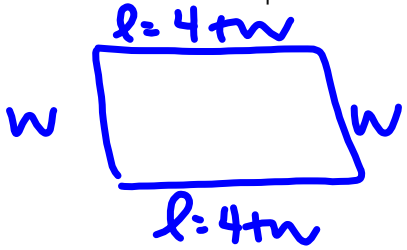
$11 = 23$



$4w + 24 = 68$
$-24 \quad -24$
$4w = 44$
$w = 11$

4. The length of a rectangle is 4 cm more than the width and the perimeter is at least 48 cm. What are the smallest possible dimensions for the rectangle?

$P \geq 48$



$w + w + 4+w + 4+w = P$

$4w + 8 = 48$
$-8 \quad -8$
$\frac{4w}{4} = \frac{40}{4}$
$w = 10$
$\ell = 14$

5. Find three consecutive integers whose sum is 171.

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

56, 57, 58

$x + x+1 + x+2 = 171$

$3x + 3 = 171$
$-3 \quad -3$

$\frac{3x}{3} = \frac{168}{3}$

$x = 56$

6. Find four consecutive even integers whose sum is 244.

1st = x
2nd = x + 2
3rd = x + 4
4th = x + 6

$x + x+2 + x+4 + x+6 = 244$

$4x + 12 = 244$
$-12 \quad -12$

$\frac{4x}{4} = \frac{232}{4}$

$x = 58$

even
58
60
62
64

$A = 2J$ $J = S - 6$

7. Alex has twice as much money as Jennifer. Jennifer has $6 less than Shannon. Together they have $54. How much money does each have?

$A = 2J$ $S = 18$ $J = 12$ $A = 24$

$J = S - 6 \Rightarrow S = J + 6$

$A + J + S = 54$

$2J + J + J + 6 = 54$

$4J + 6 = 54$

$-6 \quad -6$

$\frac{4J}{4} = \frac{48}{4}$

8. There are three exams in a marking period. A student received grades of 75 and 81 on the first two exams. What grade must the student earn on the last exam to get an average of no less than 80 for the marking period?

$$\frac{75 + 81 + x}{3} = 80$$

$$3 \cdot \frac{156 + x}{3} = 80 \cdot 3$$

$156 + x = 240$

$-156 \quad -156$

$x = 84$