Name _____

WORD PROBLEM WORKSHEET #1
Integers

Directions: *Show all work. Put answers under problem.*

1. The sum of three consecutive integers is thirty-nine. Find the middle integer.

2. Twice the smallest of three consecutive odd integers is seven more than the largest. Find the three integers.

3. Five times the second of three consecutive even integers is eighteen less than three times the sum of the first and third integer. Find the three consecutive even integers.

4. Find three consecutive odd integers such that three times the second number added to twice the third number is seven times the first number.

5. Find the measure of an angle if its supplement measures 4 less than three times its complement.

Name SOLUTIONS in 1 variable

WORD PROBLEM WORKSHEET #1
Integers

Directions: *Show all work. Put answers under problem.*

1. The sum of three consecutive integers is thirty-nine. Find the middle integer.

let X = the 1st integer

$X + (X+1) + (X+2) = 39$

$3X + 3 = 39$

$3X + 3 = 39$
$-3 \quad -3$

$\frac{3X}{3} = \frac{36}{3}$

$X = 12$

$X+1 = 13$ ← middle integer

$X+2 = 14$

2. Twice the smallest of three consecutive odd integers is seven more than the largest. Find the three integers. let X = the smallest consecutive odd integer

$2X = 7 + (X+4)$

$2X = 11 + X$
$-X \quad -X$

$X = 11$

$X = 11$
$X+2 = 13$
$X+4 = 15$

3. Five times the second of three consecutive even integers is eighteen less than three times the sum of the first and third integer. Find the three consecutive even integers.

let X = the smallest of the consecutive even integers

$5(X+2) = 3[X + (X+4)] - 18$

$5X+10 = 3(2X+4) - 18$

$5X+10 = 6X + 12 - 18$

$5X+10 = 6X - 6$
$-6X \quad -6X$

$-X + 10 = -6$
$-10 \quad -10$

$-X = -16$

$-X = -16$

$X = 16$
$X+2 = 18$
$X+4 = 20$

4. Find three consecutive odd integers such that three times the second number added to twice the third number is seven times the first number. let X = the first consecutive odd integer

$3(X+2) + 2(X+4) = 7X$

$3X+6+2X+8 = 7X$

$5X + 14 = 7X$
$-5X \quad -5X$

$\frac{14}{2} = \frac{2X}{2}$

$X = 7$
$X+2 = 9$
$X+4 = 11$

5. Find the measure of an angle if its supplement measures 4 less than three times its complement. let the supplement = $180-X$; let the complement = $90-X$

$180 - X = 3(90-X) - 4$

$180 - X = 270 - 3X - 4$

$180 - X = 266 - 3X$
$+3X \quad +3X$

$180 + 2X = 266$
$-180 \quad -180$

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

$X = 43°$