

# SOLUTIONS - Meet #3 - Category 5

## ANSWERS

### **CATEGORY 5 ALGEBRA**

1) 9 and -5  
(any order)

2) 0, 1, 2  
(any order)

3) 42

$$1) \quad |3N - 6| = 21$$

$$\begin{array}{lcl} 3N - 6 = 21 & \text{or} & 3N - 6 = -21 \\ 3N - 6 + 6 = 21 + 6 & & 3N - 6 + 6 = -21 + 6 \\ 3N = 27 & & 3N = -15 \\ 3N \div 3 = 27 \div 3 & & 3N \div 3 = -15 \div 3 \\ N = 9 & & N = -5 \end{array}$$

The two values of N are 9 and -5.

$$2) \quad -8 < 5W - 4 \leq 10$$

$$-8 + 4 < 5W - 4 + 4 \leq 10 + 4$$

$$-4 < 5W \leq 14$$

$$-4 \div 5 < 5W \div 5 \leq 14 \div 5$$

$$-0.8 < W \leq 2.8$$

The integers which satisfy this inequality are 0, 1, and 2.

3) The greatest possible difference can be found as follows:

$$\begin{aligned} & (\text{greatest possible earnings}) - (\text{least possible earnings}) \\ &= (C)(E) - (A)(B) \\ &= (7.75)(9.25) - (4.75)(6.25) \\ &= 71.6875 - 29.6875 \\ &= 42. \end{aligned}$$