Name: ID#: Sec#: Sr#:

Q1: The width of a rectangle is **One** meters less than half the length of the rectangle. If the **area** of the rectangle is 40 meter square, find the length and the width of the rectangle.

Solution:

$$W = \frac{1}{2}L - 1$$

$$40 = LW = L\left(\frac{1}{2}L - 1\right)$$

$$\frac{1}{2}L^2 - L - 40 = 0$$

$$L^2 - 2L = 80$$

$$(L-1)^2 = 81$$

$$l - 1 = \pm 9$$

$$L = 10$$

$$W = \frac{1}{2}L - 1 = 5 - 1 = 4$$

Q2: Solving $2x^2 - 5x = 4 - x$ using completing square given $(x+a)^2 = b$, find $a+b$

Solution:

$$2x^2 - 4x = 4$$

$$x^2 - 2x = 2$$

$$(x-1)^2 = 3$$

$$a = -1, \ b = 3$$

$$A + b = -1 + 3 = 2$$