

Name: _____

Show work needed to justify your answer.

Date: _____

HW: # 11a: Math IBSL - Standard 11 - Solve Quadratic Equations by Graphing

5 points

1. Solve each using complete the square method.

1 $x^2 + 12x = 2$

$$x^2 + 12x + 36 = 2 + 36$$

$$(x+6)^2 = 38$$

$$x+6 = \pm\sqrt{38}$$

$$x = -6 \pm \sqrt{38}$$

2 $x^2 - 3x = 2$

$$x^2 - 3x + \frac{9}{4} = \frac{8}{4} + \frac{9}{4}$$

$$\left(x - \frac{3}{2}\right)^2 = \frac{17}{4}$$

$$x - \frac{3}{2} = \pm\sqrt{\frac{17}{4}}$$

$$x = \frac{3}{2} \pm \frac{\sqrt{17}}{2}$$

$$x = \frac{3 \pm \sqrt{17}}{2}$$

3 $6x^2 - 12x - 3 = 0$

$$6(x^2 - 2x + 1) = 3 + 6$$

$$6(x-1)^2 = 9$$

$$(x-1)^2 = \frac{3}{2}$$

$$x-1 = \pm\sqrt{\frac{3}{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$$

$$x = 1 \pm \frac{\sqrt{6}}{2}$$

$$x = \frac{2 \pm \sqrt{6}}{2}$$

4 $6x(x+8) = 12$

$$(6x^2 + 48x + _) = 12 + _$$

$$6(x^2 + 8x + 16) = 12 + 96$$

$$6(x+4)^2 = 108$$

$$(x+4)^2 = 18$$

$$x+4 = \pm\sqrt{18}$$

$$x+4 = \pm 3\sqrt{2}$$

$$x = -4 \pm 3\sqrt{2}$$

