Name:_____ Period:_____

INT Math 3 Algebra Prerequisites Day 4

1. Simplify the following expression: $2(x+3)^2 - 9$

$2(x+3)(x+3) - 9$

$2(x^2+6x+9) - 9$

$2x^2+12x+18-9$ → $\boxed{2x^2+12x+9}$

2. Simplify the following expression: $(x-7) - 5(x+3)^2 - 8$

$(x-7) - 5(x^2+6x+9) - 8$

$x-7-5x^2-30x-45-8$

$\boxed{-5x^2-29x-60}$

3. Solve the following equation: $2(x-2) - 9 = (2x-1)^2$

$2x-4-9 = 4x^2-4x+1$

$0 = 4x^2-6x+14$

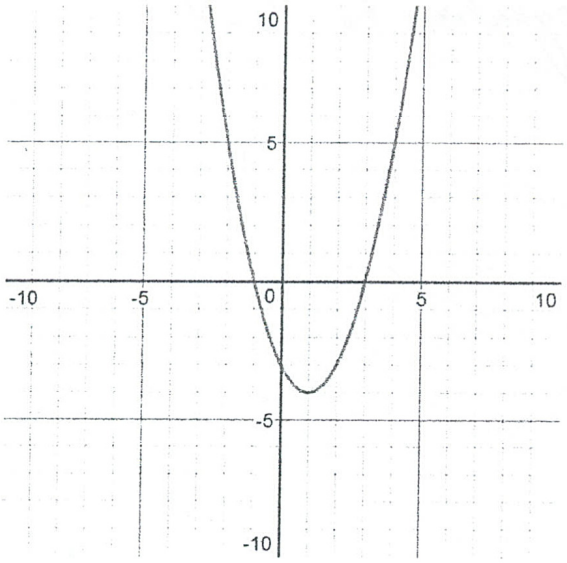
$0 = 2x^2-3x+7$

$x = \frac{3 \pm \sqrt{9-4(2)(7)}}{2(2)}$

$x = \frac{3 \pm \sqrt{-47}}{4}$

$\boxed{x = \frac{3}{4} \pm \frac{\sqrt{47}}{4}i}$

For questions 4-6 use the graph below:



4. Write an equation for the function.

$\boxed{f(x) = (x+1)(x-3)}$

5. What are the x-intercepts of the graph of the function?

$\boxed{x = -1 \text{ or } 3}$

6. When will the equation equal zero?

$\boxed{x = -1 \text{ or } 3}$

over →