2.3-2.5 HW

1. Find the factored form of the expression

   $3x^2 - 11x - 4$.

2. Solve the equation

$x^2 + 7x = 30$

3. A projectile is launched into the air. The function $h(t) = -16t^2 + 32t + 128$ gives the height, h, in feet, of the projectile t seconds after it is launched. After how many seconds will the projectile land back on the ground?

4. Identify the interval(s) on which the function $y = x^2 + 12x + 27$ is positive.

5. Write the equation of a parabola with x-intercepts at (3, 0) and (9, 0) that passes through the point (10, −7).

6. Solve the equation $x^2 = -64$ 7. Simplify $5 + 3i - (2 + 9i)$

7. Write the product $(2 + 7i)(2 - 7i)$ in the form $a + bi$.

8.

Match each sum with its factors.

$9x^2 + 1$	$18x^2 + 2$	$3x^2 + 12$	$36x^2 + 25$
2, $(3x - i)$, $(3x + i)$	3, $(x - 2i)$ and $(x + 2i)$	$(6x - 5i)$ and $(6x + 5i)$	$(3x - i)$ and $(3x + i)$

9. Solve $x^2 - 18x + 81 = 4$ by completing the square.

10. Solve $6x^2 - 12x - 41 = 0$ by completing the square.

11. Write the equation in Vertex Form $y = x^2 - 6x + 5$