AGS 3 Name: _____ Period: _____ Date: _____

Assignment 3.6

Divide using synthetic division.

1. $(2x^2 - 7x + 10) \div (x - 5)$

2. $(4x^2 - 13x - 5) \div (x - 2)$

3. $(x^2 + 8x + 1) \div (x + 4)$

4. $(x^2 + 9) \div (x - 3)$

5. $(x^3 - 5x^2 - 2) \div (x - 4)$

6. $(x^3 - 4x + 6) \div (x + 3)$

Find the conjugate for each expression.

7. $(2 - 13i)$

8. $(-1 - 2i)$

9. $(-3 + 5\sqrt{2})$

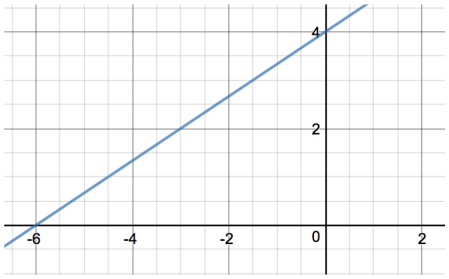
10. $-4i$

Refresh Your Memory

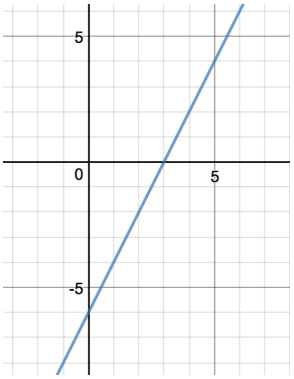
When we find the value of x when the equation is set to zero, we are finding the value of x when $y = 0$, or when the equation crosses the x-axis. This can be referred to as the x-intercept, roots, or zeros of the equation.

Find the zeros of each equation and give answers as ordered pairs. **Solve algebraically**, use the graph to confirm your solution.

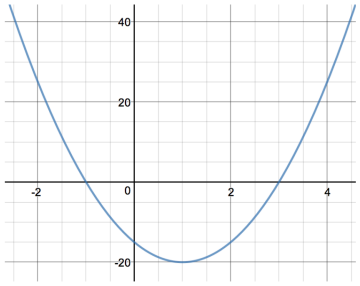
11. $y = \frac{2}{3}x + 4$



12. $y = 2x - 6$



13. $y = 5x^2 - 10x - 15$



14. $y = 4x^2 - 20x$