Honors Math II
Unit 5 day 3: synthetic and long division

Name_____
Period_____Date_____

Divide using long division.

1. $(2x^3 - 11x^2 + 13x - 44) \div (x - 5)$

2. $(5x^4 + 2x^2 - 15x + 10) \div (x + 2)$

3. $(x^3 - 3x^2 - x - 10) \div (x^2 + 3x - 1)$

4. $(4x^4 - 17x^2 + 9x - 18) \div (2x^2 - 2)$

5. $(6x^5 + 27x^4 - 10x^3 - 35x^2 + 29x - 36) \div (2x^2 + x - 4)$

Divide using synthetic division.

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

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

8. $(x^4 - 5x^3 - 8x^2 + 13x - 12) \div (x - 6)$

9. $(x^4 + 4x^3 + 16x - 35) \div (x + 5)$

Solve using any method.

10. $8x^3 - 4x^2 - 10x + 5 = 0$

11. $2x^3 + x^2 - 8x - 4 = 0$

12. $8x^3 - 27 = 0$

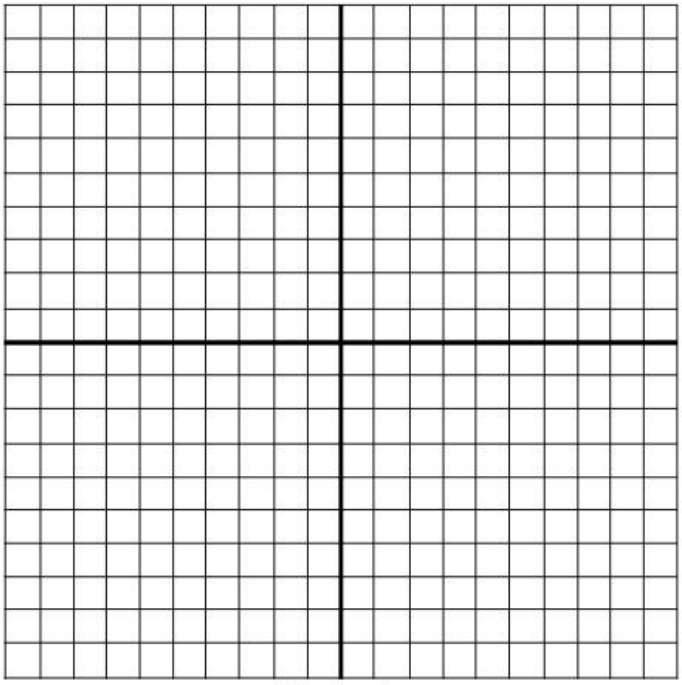
13. $6x^2 + 5x - 6 = 0$

14. $x^2 - 4x + 13 = 0$

15. $3x^2 - 11x - 20 = 0$

16. $y = -2x^2 - 4x + 7$

a) Graph



b) vertex: (,)

c) x-intercept(s): exact value

d) y-intercept:

e) domain:

f) range: