Name_____

Period_____

State the information for the given polynomials. Then, provide a sketch of the function.

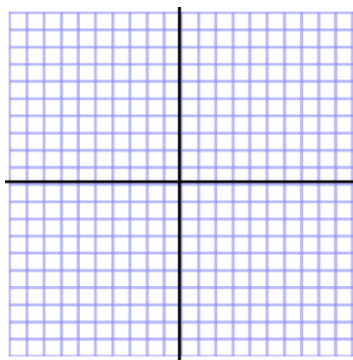1) $P_1(x) = (x - 2)(x + 5)^2$

y-intercept: _____

x-intercept(s): _____

Degree: _____   Bounce Points: _____

End Behavior/Orientation: _____

Number Line:

_____

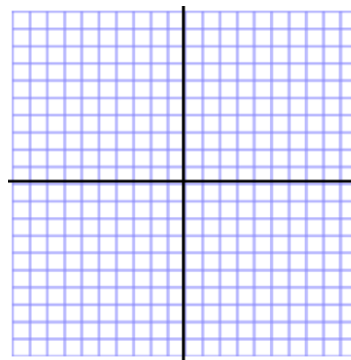2) $P_2(x) = 2(x - 2)(x + 2)(x - 3)$

y-intercept: _____

x-intercept(s): _____

Degree: _____   Bounce Points: _____

End Behavior/Orientation: _____

Number Line:

_____

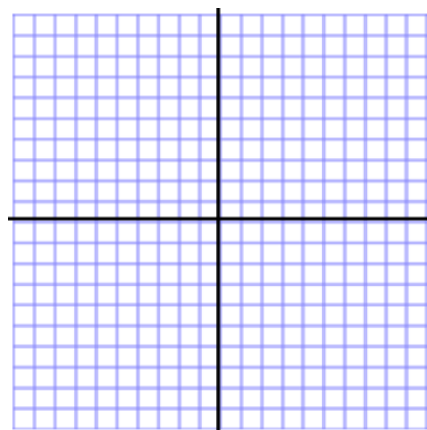3) $P_3(x) = -2(x + 3)^2(x + 1)(x - 1)(x - 5)$

y-intercept: _____

x-intercept(s): _____

Degree: _____   Bounce Points: _____

End Behavior/Orientation: _____

Number Line:

_____

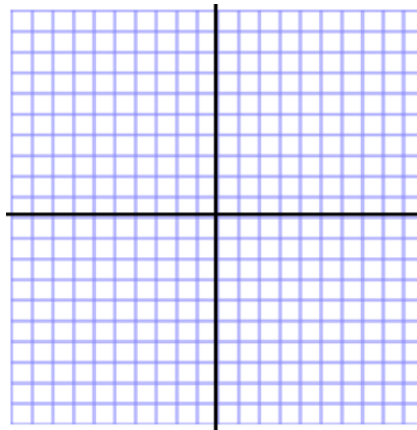4) $P_4(x) = -0.1x(x + 4)^3$

y-intercept: _____

x-intercept(s): _____

Degree: _____   Bounce Points: _____

End Behavior/Orientation: _____

Number Line:

_____

5) $P_5(x) = x^4 - 9x^2$

y-intercept: _____

x-intercept(s): _____

Degree: _____

Bounce Points: _____

End Behavior/Orientation: _____

Number Line:

_____

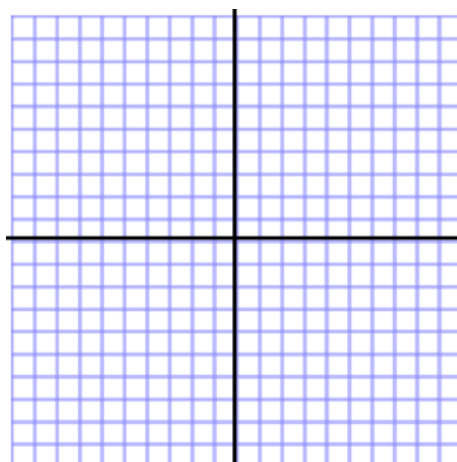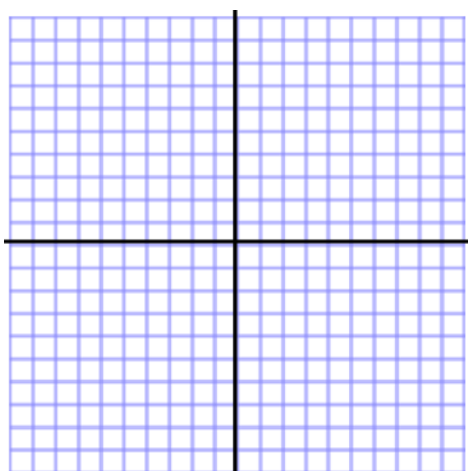6) $P_6(x) = 0.2x(x + 1)(x - 3)(x + 4)$

y-intercept: _____

x-intercept(s): _____

Degree: _____

Bounce Points: _____

End Behavior/Orientation: _____

Number Line:

_____

7) Without using a calculator, sketch rough graphs of the following functions.

a) $P(x) = -x(x + 1)(x - 3)$

b) $P(x) = (x - 1)^2(x + 2)(x - 4)$

c) $P(x) = (x + 2)^3(x - 4)$