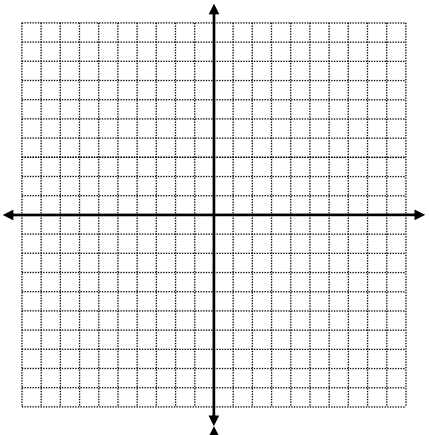
Foundations 12 Name: _____

Ch. 6 Review

1. Sketch the graph of each function and state the characteristics. (types A, B, C)

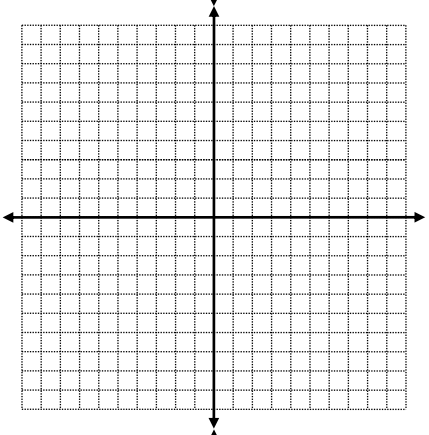
a) $y = -x^3 + 2x + 2$

Type: _____
Degree: _____
Number of x-intercepts: _____
The y-intercept: _____
The End Behavior: _____
Domain: _____
Range: _____
Number of Turning Points: _____



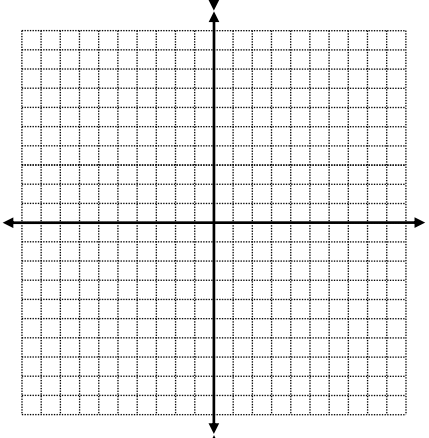
b) $y = x^2 + 2x - 6$

Type: _____
Degree: _____
Number of x-intercepts: _____
The y-intercept: _____
The End Behavior: _____
Domain: _____
Range: _____
Number of Turning Points: _____



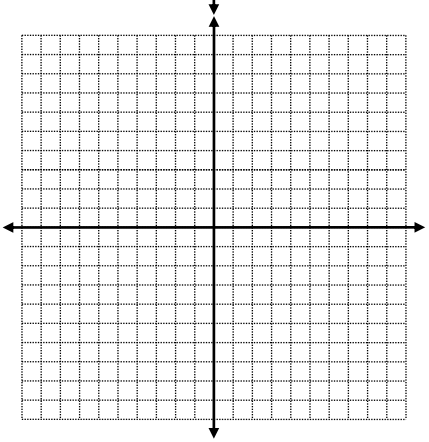
c) $y = -x - 1$

Type: _____
Degree: _____
Number of x-intercepts: _____
The y-intercept: _____
The End Behavior: _____
Domain: _____
Range: _____
Number of Turning Points: _____



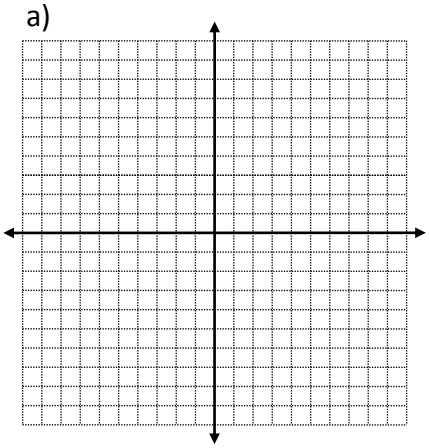
d) $y = x^3 - 2x^2 + 3x + 1$

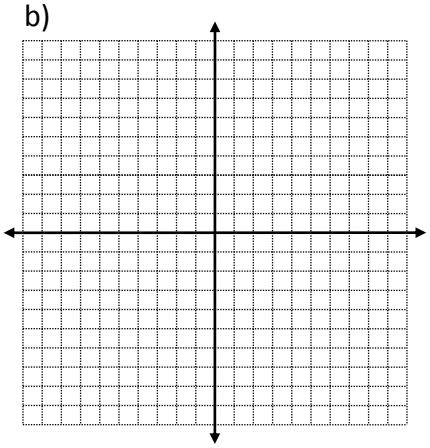
Type: _____
Degree: _____
Number of x-intercepts: _____
The y-intercept: _____
The End Behavior: _____
Domain: _____
Range: _____
Number of Turning Points: _____

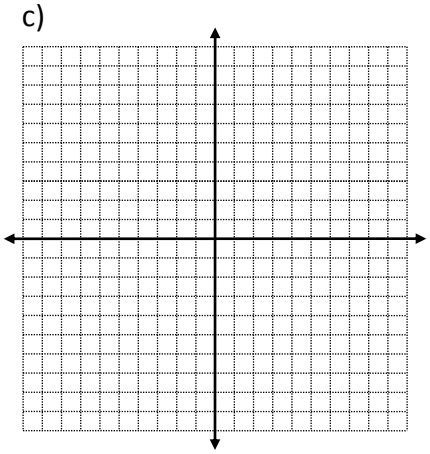


2. Sketch the graph of a polynomial function that satisfies each set of characteristics: (type D)

   a) Extending from quadrant III to quadrant I, y-intercept of –6, degree 1.
   b) Extending from quadrant II to IV, two turning points, y-intercept of –3.
   c) Extending from quadrant III to quadrant IV, degree 2, y-intercept of –4.

a) 

b) 

c) 

3. Write an equation of a polynomial function that satisfies each set of characteristics above. (type E)

   a) _____ b) _____ c) _____

4. Toby recorded the following odometer measurements during a single trip in his car:

Distance (km)	2	5	8	10	11	15	20	30	33
Time (min)	2	6	10	13	14	19	23	35	40

a) Create a scatter plot for data and determine the equation of the linear regression function. (type F)

b) What was the time it took for Toby to travel 25km? (type G)

c) What is possible distance he travelled in 45 minutes? (type G)

5. A spherical balloon is being inflated. The surface area, A, in square meters, is related to the time, t, in minutes.

Time (t)	0	1	2	3	4
Surface Area	13	28	50	79	113

a) Create a scatter plot for the data and determine the quadratic regression function that models the data. (type F)

b) Use your function to interpolate x = 2.5. (type G)

c) Use your function to extrapolate x = 5 (type G)

6. A golf club manufacturer recorded the path of a golf ball from tee to green on a par 3 hole. The data shows the height, h meters, of the golf ball above the ground after t seconds.

Time (s)	0	0.7	1.4	2.1	2.8	3.5	4.2	4.9
Height (m)	0.03	15.13	25.43	30.92	31.61	27.50	18.59	4.88

a) Create a scatterplot and determine which function best models the data. Find the line or curve of best fit accordingly. (type F)

b) Determine the height of the ball after 3 seconds. (type G)

c) Determine the maximum height of the ball above the ground. (type G)

d) Determine how long it takes for the ball to hit the ground. (type G)

MORE PRACTICE:

Types A – C : p. 427 # 1, 2, 3, 4 (use Question #1 above as a guide)

Type D: p. 424 # 3

Type E: Sketch a possible graph of p. 424 # 3

Type F & G: p. 427 # 6, 8, 10