**Question Bank**

Identify the type of function f(x) = 5x2 + 4x

What would you expect the graph to look like?

Identify the type of function f(x) = 50x – 100

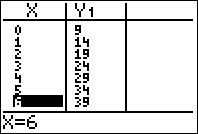
What would you expect the graph to look like?

Identify the type of function f(x) = 1.5(4)x

What would you expect the graph to look like?

Evaluate the function f(x) = 0.12 x3 + 2x -1 for the given values f(-5) and f(2).

Find the rate of change for the following from x = 1 to x = 4



Solve each equation.

-2(x + 5) + 3x = 3(-2x + 8) 5(4-x) = -(x – 2) +3

How do you know if a function is odd, even, or neither? (#1 By looking at the graph, #2 by looking at the equation, #3 by inputting a sample x and –x, #4 prove analytically)

State whether each function is odd, even, or neither. Explain in multiple ways.

\*\*(Evaluate with x = 2 and -2)

c(x) = 2x4 +x2 – 5 d(x) = 4x3 –x2

Sketch a function that satisfies the following criteria:

Domain: (-∞, 6] , Range: [1,8] , has an absolute maximum at (-3,8),

decreasing over the interval (-3,2), increasing (2,4), and a local minimum at (2,3)

P(x) = 120 (1.03)X represents the kindergarten population for an elementary school x years after the year 2000. What type of function is represented? What is the population is 2007?

The table below shows the daily pollen count (grains/cubic meter) in Maryland over the first 120 days of 2014.

|  |  |
| --- | --- |
| Day | Pollen Count (grains/cubic meter) |
| 1 | 4 |
| 15 | 5 |
| 30 | 8 |
| 45 | 27 |
| 60 | 37 |
| 75 | 52 |
| 90 | 78 |
| 105 | 90 |
| 120 | 102 |

Use your knowledge of functions to create linear and exponential regression models for the data. Round to the nearest thousandth. Which would be a better fit for the data? Use your model choice to estimate the pollen count on day 135.

Examine the two functions below.

a. Compare the functions to determine which function has a smaller minimum. Explain your reasoning.

Function A Function B

|  |  |
| --- | --- |
| *x* | *y* |
| -2 | 6 |
| 0 | 1 |
| 2 | 0 |
| 4 | 1 |
| 6 | 6 |

