REGRESSIONS – Day 2

Example 1: Remember the panda example? The table shows the relationship between the weight of a panda and its age.

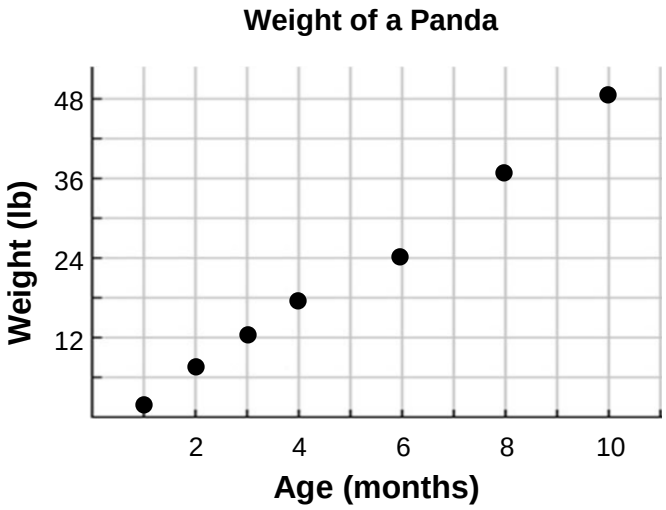
Age (months)	1	2	3	4	6	8	10
Weight (lb)	2.5	7.6	12.5	17.1	24.3	37.9	49.2

a) The data appears to follow a
Lin / Quad / Exp relationship.

b) Use regression in the calculator to find the equation of the line of best fit. Round values to the nearest hundredth.

y = _____

c) Using the equation obtained in part b, determine the approximate weight of a 7-month-old panda.



d) Compare the answer in part c to your prediction in Topic 18-1.

Example 2: A pumpkin tossing contest is held each year in Morton, Illinois, where people compete to see whose catapult will launch pumpkins the farthest. The quadratic relationship shown in the table below represents the horizontal distances the pumpkins travel when launched at different angles.

a) Use regression in the calculator to find the equation of the line of best fit. Round values to the nearest hundredth.

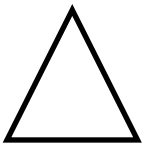
y = _____

b) Use the line of best fit to estimate the distance a pumpkin will travel when launched at an angle of 45 degrees.

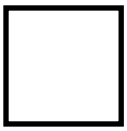
Angle (degrees)	Distance (feet)
20	372
30	462
40	509
50	501
60	437
70	323

Reminder: If the problem does not specify the type of function, turn "**Diagnostic On**" in your calculator

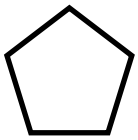
Example 3: The regular polygons below form a pattern.



Perimeter = 6 in

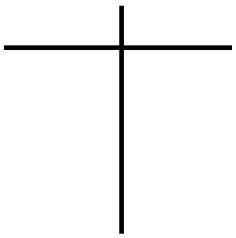


Perimeter = 12 in



Perimeter = 20 in

a) Write an expression that can be used to determine the perimeter of the *n*th figure.



Lin / Quad / Exp Expression: _____

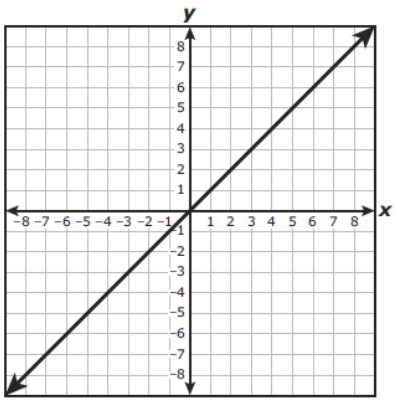
b) What is the perimeter of the 7th figure?

Example 4: The table shows some ordered pairs that belong to function *k*.

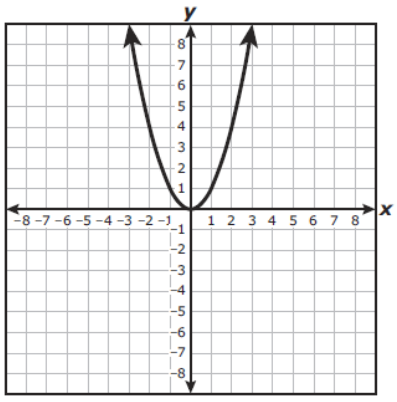
x	*k(x)*
-2	48
-1	12
0	3
1	.75

_____ **Which graph shows the parent function of *k*?**

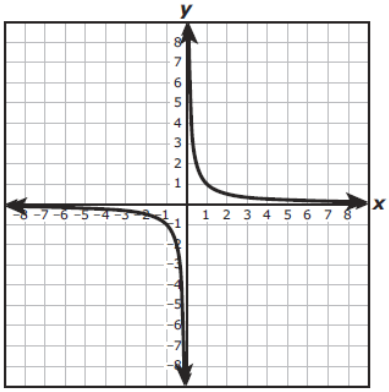
A



B



C



D None of these