

NAME \_\_\_\_\_

DATE \_\_\_\_\_

PER. \_\_\_\_\_

**REGRESSIONS – Day 1**

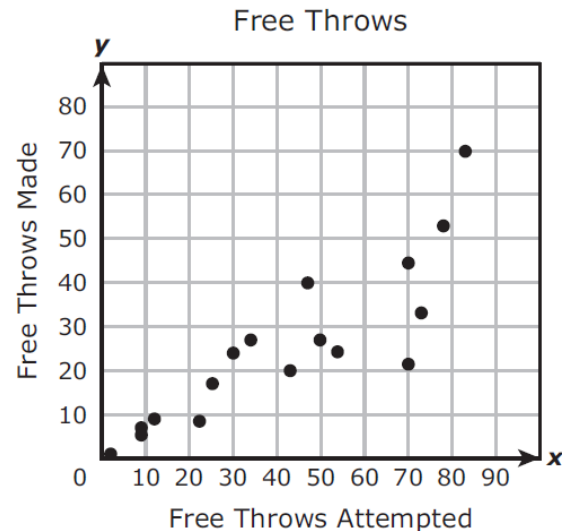
1) The scatterplot shows the number of free throws that different basketball players attempted and the number that each player made.

a) Based on the trend in the data, approximately how many free throws would a player be expected to make if he attempted 60 free throws?

- A. 50      B. 35      C. 25      D. 60

b) Which of the following best represents  $y$ , the number of free throws made, in terms of  $x$ , the number of free throws attempted, where  $x < 40$ ?

- A.  $y = -0.75x - 0.5$       C.  $y = -2.25x - 0.5$   
 B.  $y = 0.75x - 0.5$       D.  $y = 2.25x - 0.5$



Each table below shows a functional relationship between  $x$  and  $y$ . Determine if it shows a linear, quadratic, or exponential relationship, and find the equation.

2)

$x$	-1	0	1	2
$y$	$\frac{1}{6}$	$\frac{1}{2}$	$\frac{3}{2}$	$\frac{9}{2}$

Lin / Quad / Exp     $y =$  \_\_\_\_\_

3)

$x$	3	6	9	12
$y$	-2	0	2	4

Lin / Quad / Exp     $y =$  \_\_\_\_\_

4)

$x$	$y$
2	0
4	24
6	72
8	144

Lin / Quad / Exp     $y =$  \_\_\_\_\_

5)

$x$	$y$
1	5
2	8
3	13
4	20

Lin / Quad / Exp     $y =$  \_\_\_\_\_

6)

$x$	-1	1	2	3	4
$y$	.25	4	16	64	256

Lin / Quad / Exp     $y =$  \_\_\_\_\_

7)

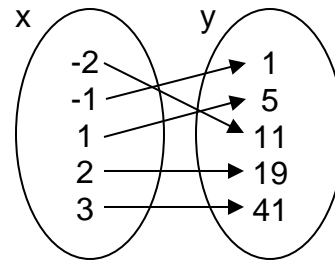
$x$	1	2	3	4
$y$	4	7	10	13

Lin / Quad / Exp     $y =$  \_\_\_\_\_

**Use regression in your calculator to answer the following.**

\_\_\_\_\_ 8) A functional relationship between two quantities is shown. Which function best represents the relationship?

- A.  $y = 4x + 2$
- B.  $y = 4x^2 + 2x + 1$
- C.  $y = 4x^2 + 2x - 1$
- D.  $y = 4x + 1$



\_\_\_\_\_ 9) Which function represents the relationship between  $x$  and  $y$  shown in the table below?

- A.  $y = 3x - 1$
- B.  $y = 3x^2 + 3$
- C.  $y = 3(x - 1)$
- D.  $y = 3(x^2 - 1)$

$x$	$y$
-2	-9
-1	-6
3	6
4	9
5	12

\_\_\_\_\_ 10) Which function represents the relationship between  $x$  and  $y$  shown in the table below?

- A.  $y = 2(x^2 - 2)$
- B.  $y = 2x^2 - 2$
- C.  $y = x^2 - 4$
- D.  $y = 2x^2 - 4x$

$x$	$y$
-2	4
-1	-2
0	-4
1	-2
4	28

\_\_\_\_\_ 11) Which algebraic expression models the relationship shown in the table?

- A.  $3^{x-2}$
- B.  $3(x - 2)$
- C.  $3x^2 - 2$
- D.  $3^x - 2$

$x$	1	2	3
$y$	1	7	25

\_\_\_\_\_ 12) What function contains the points (1, -12), (-4, 3) and (2, -15)?

- A.  $y = 9(3^x)$
- B.  $y = 3x^2 + 9$
- C.  $y = -3x^2 - 9$
- D.  $y = -3x - 9$

**Review.**

\_\_\_\_\_ 13) Which of the following is NOT a correct description of the graph of the function  $y = -2x - 7$ ?

- A. The graph of the function contains the point (-2, -3) and when the value of  $x$  increases by 1 unit, the value of  $y$  decreases by 2 units.
- B. The graph of the function contains the points (-1, -5), (2, -11) and (4, -15).
- C. The graph of the function is a line that passes through the point (0, -7) with a slope of -2.
- D. The graph of the function contains the points (0, -7), (1, -9) and (3, -1).