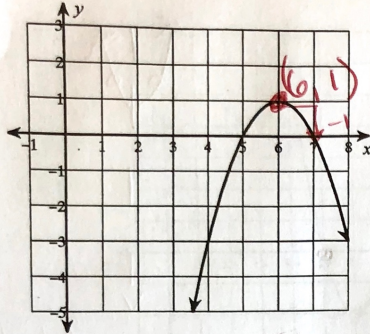


Use the information provided to write the VERTEX FORM equation of each parabola.

$$y = a(x - h)^2 + k$$

14)

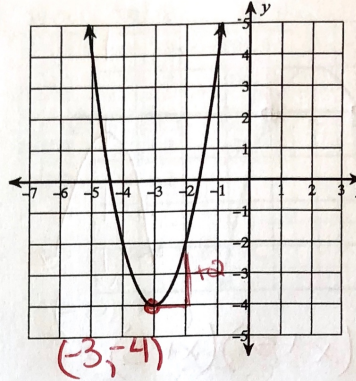


$$y = -1(x - 6)^2 + 1$$

or

$$y = -(x - 6)^2 + 1$$

15)

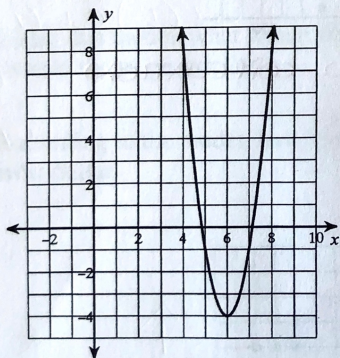


$$y = 2(x + 3)^2 - 4$$

Use the information provided to write the STANDARD FORM equation of each parabola.

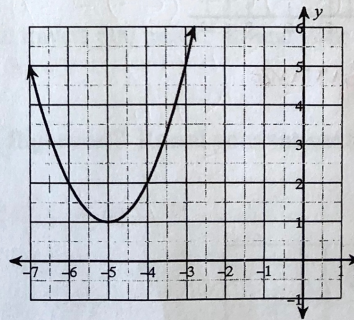
$$y = ax^2 + bx + c$$

16)



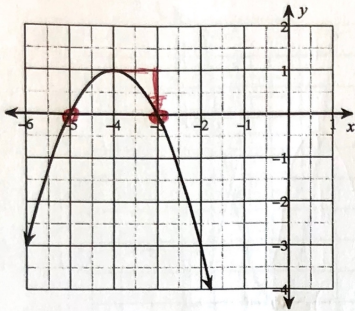
BONUS

17)



Use the information provided to write the INTERCEPT FORM equation of each parabola.
 $y = a(x - p)(x - q)$

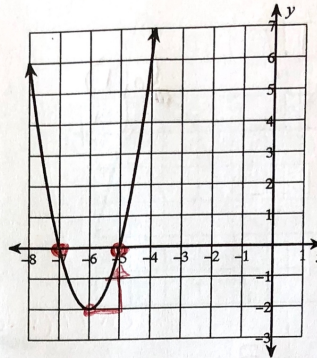
18)



$$y = -1(x + 5)(x + 3)$$

$$y = -(x + 5)(x + 3)$$

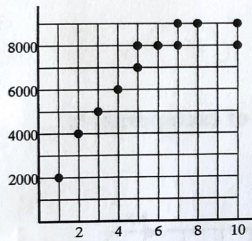
19)



$$y = a(x + 7)(x + 5)$$

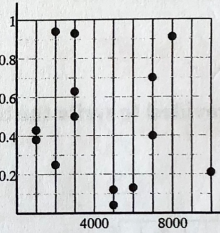
State if there appears to be a positive correlation, negative correlation, or no correlation.

20)



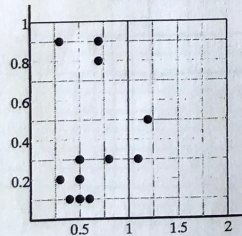
POSITIVE

21)



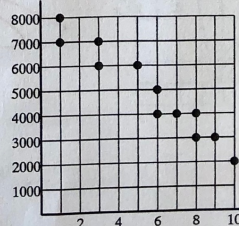
NO CORRELATION

22)



NO CORRELATION

23)



NEGATIVE

USE DESMOS!!!

- a) Create a scatterplot of the data to determine if the relationship is linear or quadratic.
 b) Write the equation of the function that best fits the data.

24)

X	Y	X	Y	X	Y
8	800	49	500	71	400
29	600	52	500	78	300
29	700	60	400	88	200
29	700	61	500	88	300
43	600	63	400		

25)

X	Y	X	Y	X	Y
10	1.8	60	7.8	100	7.7
20	4.2	70	8	100	7.9
30	5.1	70	8.1	100	8
40	6.7	80	8.2	100	8
50	7.2	90	8.2		

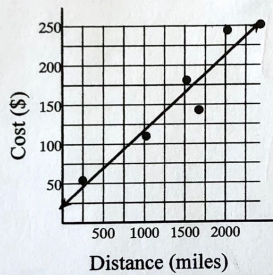
a) LINEAR

a) QUADRATIC

b) $y = -7.0135x + 867.58$

b) $y = -.0013x^2 + .201x + .29$

- 26) The cost of a flight is related to the length of the flight by $y = 0.0956x + 21.7$ where x is distance in miles y is cost in dollars.



- a) Using this model, what would be the cost of a flight that travels 600 miles? Round your answer to the nearest dollar.

$$y = 0.0956(600) + 21.7$$

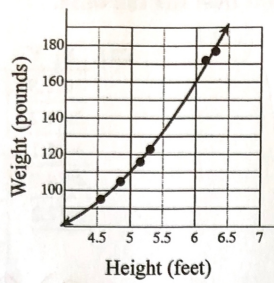
$$y = \$79$$

- b) According to the model, how much would a 3550-mile flight cost? Round your answer to the nearest dollar.

$$y = 0.0956(3550) + 21.7$$

$$y = \$361$$

- 27) The height and weight of adults can be related by the equation $y = 10.3x^2 - 63.3x + 170$ where x is height in feet and y is weight in pounds.



- a) Using this model, what would be the weight of someone who is 5.7 ft tall? Round your answer to the nearest tenth.

$$y = 10.3(5.7)^2 - 63.3(5.7) + 170$$
$$y = 143.8$$

- b) According to the model, what would be the weight of someone who is 6 ft tall? Round your answer to the nearest tenth.

$$y = 10.3(6)^2 - 63.3(6) + 170$$
$$y = 161$$