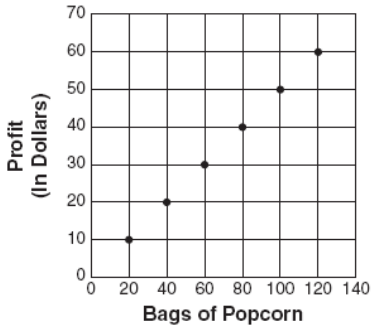
Name: **Date:**

Unit 11, Day 3 Practice **Period:**

Learning Targets

- I can make predictions from a line and curve of best fit.

1. The graph represents the relationship between the bags of popcorn sold and the amount of profit made during the Newton Honor Society's popcorn sale.



Which is closest to the minimum number of bags that must be sold to make a $200 profit?

a. 250 b. 300

c. 350 d. 400

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2. Which equation defines the linear line of best fit for the data in the table?

x	y
70	4
75	7
80	8.5
85	12
90	11
95	13.5
100	15

a. $y = 19.5x - 0.35$

b. $y = -0.35x + 19.5$

c. $y = -19.5x + 0.35$

d. $y = 0.35x - 19.5$

3. The table below shows the lengths and corresponding ideal weights of sand sharks.

Length	60	62	64	66	68	70	72
Weight	105	114	124	131	139	149	158

Predict the **weight** of a sand shark whose **length** is 75 inches.

4. This table shows the value, v, of an account at the end of m months. There was an initial deposit of $50 and no other deposits were made.

M, time in months	V, value in dollars
0	50
1	129
3	299
5	485
7	687
9	905

If the value of the account continues to increase in the same way, predict the value of an account at the end of 13 months. Use the quadratic curve of best fit to make the prediction.

5. This set of ordered pairs shows a relationship between x and y.

(-6, 88) (-4, 32) (-2, 0) (-1, -7) (0, -8) (3, 25) (5, 77), (6, 112)

Using the quadratic curve of best fit, predict the value of y when x=8.

6. The table shows the clothing purchases Jenny made last month and the tax charged for each purchase.

Clothing Purchases (in dollars), c	Tax (in dollars), t
35	3.15
40	3.60
22	1.98
68	6.12
74	6.66
31	2.79

Which equation represents the line that *best* fits the data?

a. $t = 0.09c + 2.89$

b. $t = 0.91c$

c. $t = 0.09c$

d. $t = 1.09c$

7. A delivery service company maintains several vehicles. The table summarizes the cost for auto insurance related to the number of vehicles insured.

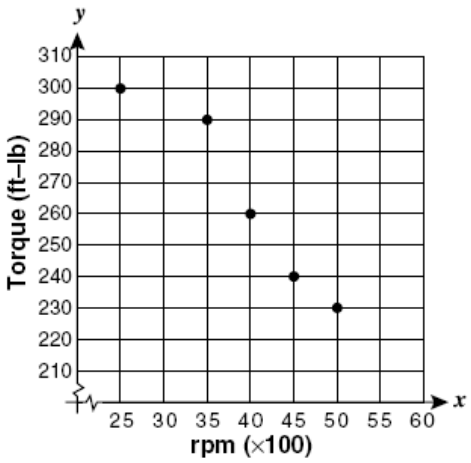
Number of Vehicles	Cost ($)
1	1,700
2	2,200
3	2,700
4	3,200
5	3,700
6	4,200

Using the equation of a line of best fit for the data, which is the closest estimate of the total cost of insuring eight vehicles?

a. $5,050 c. $5,500

b. $5,200 d. $5,950

8. An engine is tested for torque output at different revolutions per minute.

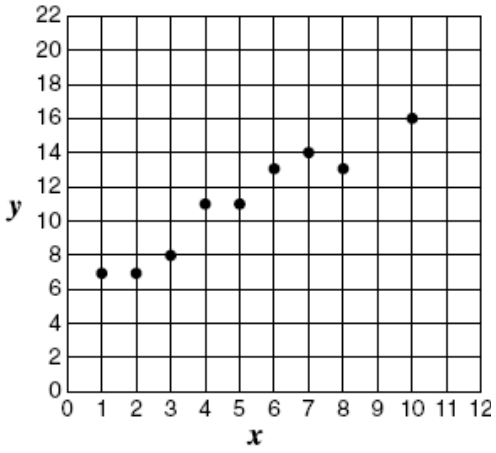


Which equation most closely defines the line of best fit for the data?

a. $y = 4.1x + 414$ b. $y = -4.1x + 414$

c. $y = 3.1x + 383$ d. $y = -3.1x + 383$

9. Using the data plotted on the scatter plot, which equation most closely describes a line of best fit for the data?



a. $y = x + 6$

b. $y = 2x - 4$

c. $y = 2x + 5$

d. $y = 3x - 4$

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10. The table shows the relationship between a, the area of a rectangle, and h, its height, when the base remains constant.

h	2	5	7	12
a	8	20	28	48

Which equation represents the relationship between h and a?

a. $a = h + 6$

b. $a = 3h + 2$

c. $a = 4h$

d. $a = 2h + 4$

11. The table below shows the relation between the number of members in a club selling cookies and the predicted number of boxes sold.

Club Cookie Sales

Number of Members, g	Number of Boxes Sold, b
5	350
10	650
15	950
20	1,250

Using the data shown above, which equation could be used to predict the number of boxes of cookies that the club will sell?

a. $b = 60g$

b. $b = 70g$

c. $b = 60g + 50$

d. $b = 50g + 50$

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12. The numbers in the table follow a linear pattern.

x	y
2	14
4	26
6	38
8	50
28	170
30	?

What is the missing y value?

a. 182

b. 180

c. 176

d. 172