

CCGPS Algebra
Line of Best Fit HW

Name: Answer Key

1. The table shows the number y (in thousands) of alternative-fueled vehicles in use in the United States x years after 1997. Approximate the best-fitting line for the data

	1997	'98	'99	'00	'01	'02	'03	'04
x	0	1	2	3	4	5	6	7
y	280	295	322	395	425	471	511	548

$$y = 40.87x + 262.83$$

Use the equation of the line of fit from the above example to predict the number of alternative-fueled vehicles in use in the United States in 2010.

2010: $x = 13$

$$y = 40.87(13) + 262.83 = 794.14 \text{ thousand vehicles}$$

In exercise 2 – 7, approximate the best-fitting line and estimate y when $x = 20$

2.

x	1	2	3	4	5
y	10	22	35	49	62

$$y = 13.1x - 3.7$$

when $x = 20$: $y = 13.1(20) - 3.7 = 258.3$

3.

x	1	2	3	4	5
y	120	101	87	57	42

$$y = -20x + 141.4$$

when $x = 20$:

$$y = -20(20) + 141.4 = -258.6$$

4.

x	12	25	36	50	64
y	100	75	52	26	9

$$y = -1.78x + 119.16$$

when $x = 20$:

$$y = -1.78(20) + 119.16 = 83.56$$

5.

x	3	7	10	15	18
y	16	45	82	102	116

$$y = 6.71x + 1.07$$

when $x = 20$:

$$y = 6.71(20) + 1.07 = 135.27$$

6.

x	5.6	6.2	7	7.3	8.4
y	120	130	141	156	167

$$y = 17.39x + 22.8$$

when $x = 20$:

$$y = 17.39(20) + 22.8 = 370.6$$

7.

x	16	24	39	55	68
y	3.9	3.7	3.4	2.9	2.6

$$y = -0.03x + 4.32$$

when $x = 20$:

$$y = -0.03(20) + 4.32 = 3.72$$