

# LINEAR REGRESSION

Coloring Activity!

Name: \_\_\_\_\_ Per: \_\_\_\_\_

Date: \_\_\_\_\_

**Directions:** Use the given data to find the line of best fit and estimation for each problem. Color the picture by matching the selected number and color. **COLORS MAY REPEAT.**

**A** The data in the table below gives the average price of an MLB ticket since 2014. If  $x$  is the years since 2014 and  $y$  is the average price, find the line of best fit. Then, estimate the average ticket price in 2026.

Year	2014	2015	2016	2017	2018	2019	2020	2021	2022
Avg Price \$	27.93	29.94	31.00	31.47	32.44	32.99	34.04	34.21	35.93

$y = 0.90x + 25.72$	$y = 0.87x + 28.72$	$y = 0.83x + 29.75$
6	4	11
\$40.15	\$41.09	\$39.16
Light Green	Dark Purple	Dark Green

**C** The data in the table below gives the approximate length and weight of Bluegill fish. If  $x$  is the length in inches and  $y$  is the weight in ounces, find the line of best fit. Then, estimate the weight of a 13-inch Bluegill.

Length in.	8	8.5	9	9.5	10	10.5	11	11.5	12
Weight oz	6.72	8	9.92	11.2	14.08	16	19.36	22.4	25.76

$y = 4.77x - 32.85$	$y = 5.03x - 33.54$	$y = 4.87x - 34.35$
7	1	5
30.6 oz	29.16 oz	28.45 oz
Dark Blue	Yellow	Light Green

**E** The data in the table below gives a sample of men's heights and shoe size. If  $x$  is the height in inches and  $y$  is the shoe size, find the line of best fit. Then, estimate the height of a man with a shoe size of 11.5.

Height (in)	72	64	69	64	65	77	74	65	68
Shoe Size	12	9	10	8.5	9	12	11	8.5	10

$y = 0.28x + 8.88$	$y = 0.28x - 8.88$	$y = 0.82x - 8.88$
9	5	11
70.13 in.	72.79 in.	73.46 in.
Light Blue	Dark Purple	Red

**B** The data in the table below gives the number of global social network users since 2014 (in billions). If  $x$  is the years since 2014 and  $y$  is the number of users in billions, find the line of best fit. Then, estimate the number of users in 2027.

Year	2014	2015	2016	2017	2018	2019	2020	2021	2022
Users	2	2.2	2.31	2.73	3.1	3.51	3.9	4.26	4.59

$y = 0.36x + 2.81$	$y = 0.37x + 1.61$	$y = 0.34x + 1.81$
8	10	3
6.23 billion	5.99 billion	6.17 billion
Orange	Light Blue	Light Green

**D** The data in the table below gives the number of bedrooms and average rent in Elm City. If  $x$  is the number of bedrooms and  $y$  is the monthly rent, find the line of best fit. Then estimate what you would expect to pay for 5 bedrooms.

# Bedrooms	0	1	2	3
Monthly Rent (\$)	1,280	1,410	1,590	2,050

$y = 300x + 1158$	$y = 280x + 1048$	$y = 280x + 1048$
12	6	6
\$2,523	\$2,624	\$2,624
Light Blue	Yellow	Yellow

**F** The data in the table below shows midterm and final exam grades. If  $x$  is the midterm grade and  $y$  is the final grade, find the line of best fit. Then, estimate the exam grade for a mid-term grade of 75.

Midterm	71	49	80	73	93	85
Final	75	62	76	77	89	74

$y = 0.67x + 31.66$	$y = 0.56x + 27.03$
5	12
79.54	80.61
Light Purple	Dark Green

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The data in the table below shows the heights and hand lengths of a sample of men. If  $x$  is the hand length in inches and  $y$  is the height in inches, find the line of best fit. Then, estimate the height of a woman with hand length of 8 inches.

6.5	6.5	6.5	7	7.25	7.5	8.4	8.5
66	61.5	63	69	63.5	68	68	68.5

$y = 3.01x + 34.78$	$y = 2.49x + 47.75$
5	1
69.68 in	67.67 in
Dark Blue	Light Green

The data in the table below shows the average number of ice cream cones sold and the temperature. If  $x$  is the temperature in degrees Fahrenheit, find the line of best fit. Then, estimate the number of cones sold at a temperature of 65 degrees Fahrenheit.

65	72	67	70	75	78	80	82	85	88
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**H** The data in the table below shows the number of times a cricket chirps in 15 seconds and the outside temperature. If  $x$  is the number of chirps and  $y$  is the temperature, find the line of best fit. Then, estimate the temperature if 25 chirps are counted.

Chirps	47	39	35	36	37	40	20	45	45	47
Temp F°	88°	78°	76°	74°	78°	81°	62°	85°	87°	85°

$y = 1.04x + 51.43$	$y = 0.89x + 41.68$	$y = 0.94x + 42.50$
8	6	11
66°	67°	68°
Yellow	Dark Purple	Pink

**J** The data in the table below shows the average number of pool visitors for each temperature and the average daily temperature. If  $x$  is the average daily temperature and  $y$  is the number of visitors, find the line of best fit. Then estimate how many visitors they should expect at a temperature of 75 degrees Fahrenheit.

