Math 1 Name_____

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Unit 5.4 Scatter plots

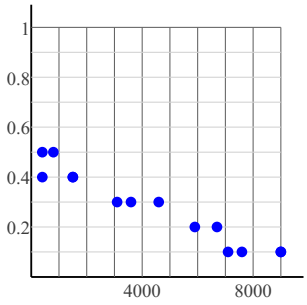
Period____

State if there appears to be a positive correlation, negative correlation, or no correlation. When there is a correlation, draw the line of best fit.

1)

X	Y
400	0.4
400	0.5
800	0.5
1,500	0.4
1,500	0.4
3,100	0.3
3,600	0.3

X	Y
4,600	0.3
5,900	0.2
6,700	0.2
7,100	0.1
7,600	0.1
9,000	0.1
9,000	0.1

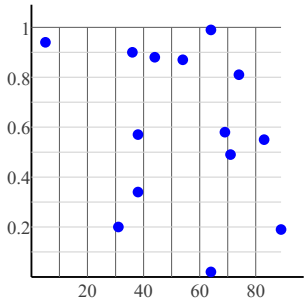


2)

X	Y
5	0.94
31	0.2
36	0.9
38	0.34
38	0.57

X	Y
44	0.88
54	0.87
64	0.02
64	0.99
69	0.58

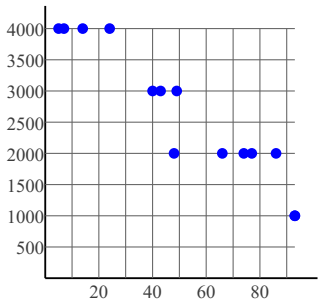
X	Y
71	0.49
74	0.81
83	0.55
89	0.19



3)

X	Y
5	4,000
7	4,000
14	4,000
24	4,000
40	3,000
43	3,000
48	2,000

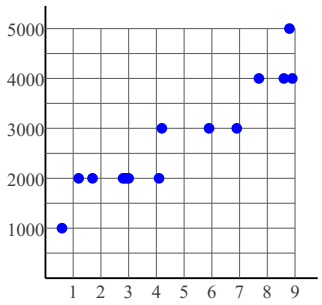
X	Y
49	3,000
66	2,000
74	2,000
77	2,000
86	2,000
93	1,000
93	1,000



4)

X	Y
0.6	1,000
1.2	2,000
1.7	2,000
2.8	2,000
2.9	2,000
3	2,000
4.1	2,000

X	Y
4.2	3,000
5.9	3,000
6.9	3,000
7.7	4,000
8.6	4,000
8.8	5,000
8.9	4,000



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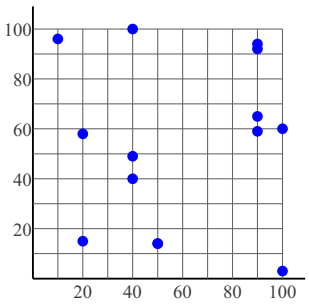
5)

X	Y
10	96
20	15
20	58
40	40
40	49

X	Y
40	100
50	14
50	14
90	59
90	65

X	Y
90	92
90	94
100	3
100	60

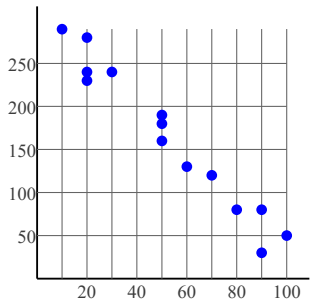


6)

X	Y
10	290
20	230
20	240
20	280
30	240

X	Y
50	160
50	180
50	190
60	130
70	120

X	Y
80	80
90	30
90	80
100	50

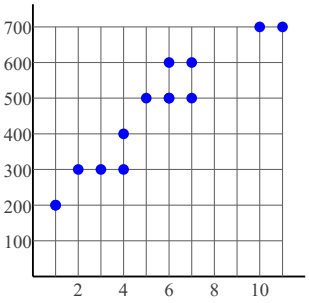


7)

X	Y
1	200
1	200
2	300
3	300
4	300

X	Y
4	400
5	500
6	500
6	500
6	600

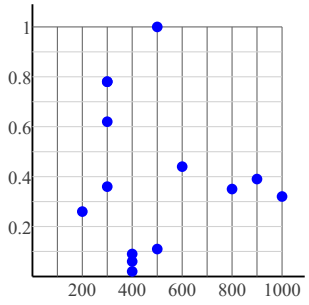
X	Y
7	500
7	600
10	700
11	700



8)

X	Y
200	0.26
300	0.36
300	0.62
300	0.78
300	0.78
400	0.02
400	0.06

X	Y
400	0.09
500	0.11
500	1
600	0.44
800	0.35
900	0.39
1,000	0.32



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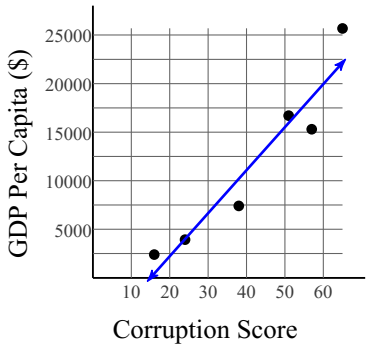
9) Economists have found that the amount of corruption in a country's government is correlated to the gross domestic product (GDP) per capita of that country. This can be modeled by $y = 443x - 6630$ where x is the corruption score and y is GDP per capita in dollars. Corruption scores range from 0 to 100 with 0 being highly corrupt and 100 being least corrupt.

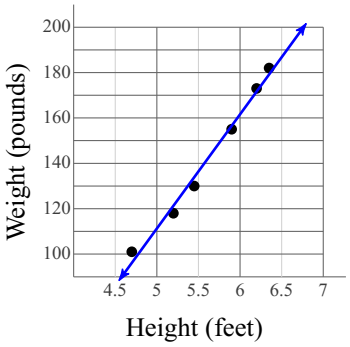


a) What does the slope of the line represent?

b) According to the model, what would be the GDP per capita of a country with a corruption score of 31? Round your answer to the nearest dollar.

c) A GDP per capita of $14,000 corresponds to what corruption score, according to the model? Round your answer to the nearest whole number.

10) The height and weight of adults can be related by the equation $y = 50.3x - 140$ where x is height in feet and y is weight in pounds.



a) What does the slope of the line represent?

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

c) What height corresponds to a weight of 110 pounds? Round your answer to the nearest hundredth.

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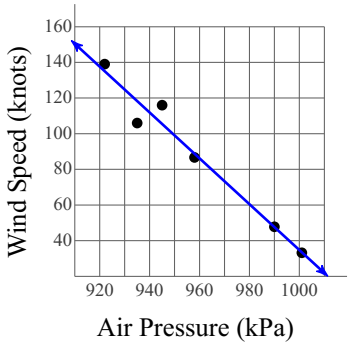
11) There is a close relationship between the air pressure inside a hurricane and its maximum sustained wind speed: $y = -1.29x + 1320$ where x is the air pressure in millibars (kPa) and y is the wind speed in knots (nautical miles per hour).

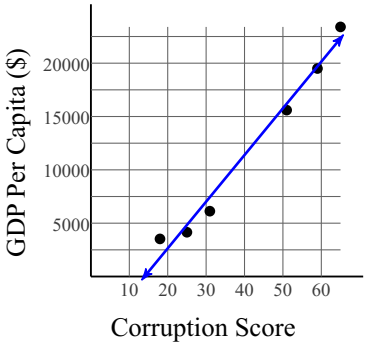


a) What does the slope of the line represent?

b) Using the model, what would be the wind speed of a hurricane with an air pressure of 966 kPa? Round your answer to the nearest knot.

c) The model indicates that a wind speed of 58 knots is associated with what air pressure? Round your answer to the nearest millibar.

12) Economists have found that the amount of corruption in a country's government is correlated to the gross domestic product (GDP) per capita of that country. This can be modeled by $y = 438x - 6110$ where x is the corruption score and y is GDP per capita in dollars. Corruption scores range from 0 to 100 with 0 being highly corrupt and 100 being least corrupt.



a) What does the slope of the line represent?

b) According to the model, what would be the GDP per capita of a country with a corruption score of 44? Round your answer to the nearest dollar.

c) A GDP per capita of $10,000 corresponds to what corruption score, according to the model? Round your answer to the nearest whole number.

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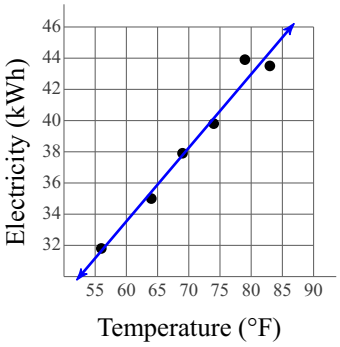
13) The average amount of electricity consumed by a household in a day is strongly correlated to the average daily temperature for that day. This relationship is given by $y = 0.472x + 5.23$ where x is the temperature in °F and y is the amount of electricity consumed in kilowatt-hours (kWh).

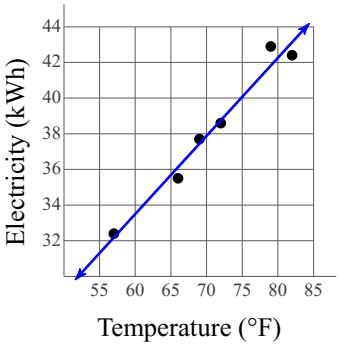


a) What does the slope of the line represent?

b) Using the model, how much electricity would be consumed if the average daily temperature was 61°F? Round your answer to the nearest kilowatt-hour.

c) What temperature would it need to reach in order for 39 kWh to be consumed? Round your answer to the nearest degree.

14) The average amount of electricity consumed by a household in a day is strongly correlated to the average daily temperature for that day. This relationship is given by $y = 0.438x + 7.22$ where x is the temperature in °F and y is the amount of electricity consumed in kilowatt-hours (kWh).



a) What does the slope of the line represent?

b) Using the model, how much electricity would be consumed if the average daily temperature was 60°F? Round your answer to the nearest kilowatt-hour.

c) What temperature would it need to reach in order for 40 kWh to be consumed? Round your answer to the nearest degree.

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