For each of the following, write the prediction equation and then solve the problem.

1. A student who waits on tables at a restaurant recorded the cost of meals and the tip left by single diners.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Meal Cost | $4.75 | $6.84 | $12.52 | $20.42 | $8.97 |
| Tip | $0.50 | $0.90 | $1.50 | $3.00 | $1.00 |

If the next dinner orders a meal costing $10.50, how much tip should the waiter expect to receive?

$1.35

y = .157x - .299

Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Tip expected: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. The table below gives the number of hours spent studying for a science exam (x) and the final exam grade (y).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| x | 2 | 5 | 1 | 0 | 4 | 2 | 3 |
| y | 77 | 92 | 70 | 63 | 90 | 75 | 84 |

Predict the exam grade of a student who studied for 6 hours.

100.5%

y = 6.089x + 63.927

Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Grade expected: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. 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.

170.64 lbs.

y = 4.357x – 156.143

Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Weight expected: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. The table below gives the height and shoe sizes of six randomly selected men.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Height | 67 | 70 | 73.5 | 75 | 78 | 66 |
| Shoe size | 8.5 | 9.5 | 11 | 12 | 13 | 8 |

Y2

If a man has a shoe size of 10.5, what would be his predicted height?

72 inches

y = .421x – 19.813

Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Height expected: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_