Line of Best Fit Practice

For each of the following: create a scatterplot, draw a line of best fit, write the equation of the line of best fit, and then answer the question(s) using your model.

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

   a. If the next diner orders a meal costing $10.50, how much tip should the waiter expect to receive?
   b. If the tip is $2.50, what could be the cost of the meal?

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2. 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

   a. Predict the exam grade of a student who studied for 6 hours.
   b. How many hours should a student study if he wants to get an 80 on the test?

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

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

   a. Predict the weight of a sand shark whose length is 75 inches.
   b. If a shark weighs 150 pounds, how long would we expect it to be?

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

Height (in)	67	70	73.5	75	78	66
Shoe size	8.5	9.5	11	12	13	8

   a. If a man has a shoe size of 9, what would be his predicted height?
   b. If a man is 6 feet tall, what would we predict his shoe size to be?

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5. Jamal and Alisha played a round of miniature golf. They made some notes of the time it took to play. Their data are shown in the following table:

Hole Number	3	6	9	12	15	18
Time since start (min)	7	13	20	27	32	40

   a. Estimate the time it took Jamal and Alisha to play the first 7 holes.
   b. Estimate the amount of time it would take Jamal and Alisha to play 27 holes.
   c. What hole would you estimate them to be on if they played for 35 minutes?