Bowling with Jacob

Name: <u>　　　Answer Key　　　</u>　　Date: <u>　　　　　　</u>　　Hour: <u>　　　</u>

Jacob decided to bowl with various weights of bowling balls and see how many pins he knocked down. He decided to try the 8 lb., 10 lb., and 14 lb. bowling balls. He made 5 attempts with each weight, but only counted the first half of the frame (the first roll of two). He then took the average number of pins for each weight. Place an **X** by each true statement below based on Jacob's data and scatter plot provided below.

Weight	Pins Knocked Down (average)
8 lbs	6.5
10 lbs	4.9
14 lbs	3.7
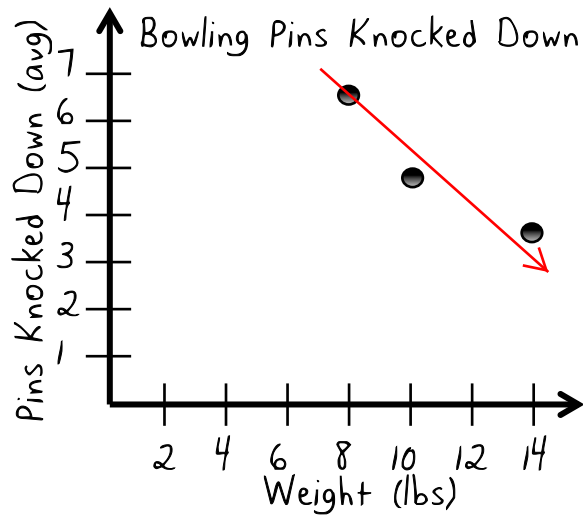
X　　**A**　If Jacob knocks down 5 pins when he uses the 12 lb. ball, it will be more than expected.

　　　　B　If Jacob knocks down 4 pins when he uses the 12 lb. ball, it will be more than expected.

X　　**C**　If Jacob uses a 16 lb. ball, he can expect to knock down less than 3.7 pins on average.

　　　　D　Jacob's accuracy is improving as the weight increases.

X　　**E**　Jacob can knock down more than 60% of the pins with the 8 lb ball.

Explain your thinking. Describe what Jacob's data table and graph show.

Possible Response: When I look at the graph and imagine a line going through the points, I can see that the 12 lb. ball would probably knock down 4 pins. So, A says that 5 will be more than expected and I think that's true. Also, B says 4 will be more than expected, but I think that is what will happen. I marked C because Jacob knocked down 3.7 pins on 14 lbs. I think he won't knock as many over at 16 lb. I didn't mark D since Jacob knocks down less pins as the bowling ball gets heavier. I marked E since Jacob knocked down 6.5 or 65% of the pins with the 8 lb. ball.