

Regression Effect *Math 125 Kovitz*

1. In a study of a representative group of men, the correlation between height and weight was 0.43. One man in the study was both one SD above average in height and one SD above average in weight. His weight will be

(i) larger than (ii) smaller than (iii) equal to

the estimated average weight of all men of his height in the study. Explain your choice.

2. The freshmen in a large university are required to take a battery of aptitude tests. Students who score high on the mathematics test also tend to score high on the physics test. On both tests, the average score is 60, the SDs are the same too. The scatter diagram is football-shaped.

The students who scored about 75 on the mathematics test tended to average what on the physics test?

(A) below 60 (B) 60 (C) between 60 and 75 (D) 75 (E) above 75

3. The freshmen in a large university are required to take a battery of aptitude tests. Students who score high on the mathematics test also tend to score high on the physics test. On both tests, the average score is 60, the SDs are the same too. The scatter diagram is football-shaped.

Of the students who scored about 75 on the mathematics test:

- (A) just about half scored over 75 on the physics test.
(B) more than half scored over 75 on the physics test.
(C) less than half scored over 75 on the physics test.

4. The freshmen in a large university are required to take a battery of aptitude tests. Students who score high on the mathematics test also tend to score high on the physics test. The scatter diagram is football-shaped.

The students who scored at about the 93rd percentile on the mathematics test tended to be at what percentile on the physics test?

(A) below the 50th (B) at the 50th (C) between the 50th and the 93rd (D) at the 93rd (E) above the 93rd