Question 1. (2 pts.)

Roll a six-sided die and let \( X \) be the number showing plus the time it took to stop rolling. Is \( X \) a discrete or continuous random variable?

Question 2. (2 pts.)

In simple linear regression \( Y = \beta_0 + \beta_1 X + \epsilon \), how many unknown parameters of the model are there?

Answer: ________________________________

Question 3. (2 pts.)

Suppose \( q(x) \) is the probability function for a discrete random variable with range the natural numbers \( \{1, 2, 3, \ldots \} \). Write down the formula to compute the probability of observing a number that is even.

Answer: ________________________________

Question 4. (2 pts.)

True or False (circle one): In Linear Regression, the regression curve can be a parabola that opens to the right.

Question 5. (2 pts.)

Circle one. In the simple linear regression model \( Y = \beta_0 + \beta_1 X + \beta_2 X^2 + \epsilon \), the regression curve is a:

(A) Straight line
(B) Parabola
(C) Hyperbola
(D) Ellipse
(E) None of the Above