Ans to the Q: NO: (3)

The expected value of the sample mean is the Population mean, and SE of the sample mean is the SD of the Population, divided by the square-Root of the sample size. And the expected value of a random variable is the weighted avarage of all possible values of the variable the random variable taking a specific value.

$$\mu = E[X] = (1 \times 1/6) + (2 \times 1/6) + (3 \times 1/6)$$

$$+ (4 \times 1/6) + (5 \times 1/6) + (6 \times 1/6)$$

$$= 3.5$$

the 3.5, which is not a Possible value of X.

the variance of the random variable X is defined as:

$$V(X) = 6^{2} = E\left(X - E(X)\right)^{2}$$

$$= E(X^{2}) - E(X)^{2}$$

$$= V(3.5) = 6^{2}3.5 = E\left(3.5 - E(3.5)\right)$$

$$= E(3.5^{2}) - E(3.5)$$

The Expected value = 0