Question

1) The mean and the range of the sets of numbers 1.20, 1.00, 0.90, 1.40, 0.80, 0.80, 1.20 and 1.10 are m and r respectively. Find $m - r$.

a) 1.69

b) 0.45

c) 1.67

d) 1.16

Solution

The mean is equal to

$$\frac{1.20+1.00+0.90+1.40+0.80+0.80+1.20+1.10}{8} = 1.05.$$

The range is the difference between the largest and the smallest values:

$$r = 1.40 - 0.80 = 0.60.$$

So

$$m - r = 1.05 - 0.60 = 0.45.$$

Answer: b) 0.45.

Question

2) Seven Matrons assembled for a meeting, shake hands with one another. How many handshakes take place?

a) 394

b) 5040

c) 124

d) 490

Solution

The number of handshakes is equal to

$$\binom{7}{2} = \frac{7!}{2! \cdot 5!} = \frac{6 \cdot 7}{2} = 21.$$

Answer: 21.

Question

3) What is evaluation of 5! ?

a) 120

b) 140

c) 110

d) 112

Solution

By the definition, $5! = 1 \cdot 2 \cdot 3 \cdot 4 \cdot 5 = 120$.

Answer: a) 120.

Question

4) If four coins are flipped in succession, then the number of possible outcomes is…

a) 8

b) 12

c) 16

d) 14

Solution

For one coin we have two possible outcomes. So using the multiplication rule we obtain the number of possible outcomes for four coins is $2 \cdot 2 \cdot 2 \cdot 2 = 2^4 = 16$.

Answer. c) 16.