Sol,

$$\therefore \text{Probability of Event} = \frac{\text{No of ways of occurance of events}}{\text{Total Possible outcome}}$$

Prob. of having
group AB $= \dfrac{125}{1000}$

,, ,, $= \dfrac{1}{8}$ Ans

(a) Classification of blood groups is based on the presence or absence of inherited antigenic substances on the surface of red blood cells. In a survey of British population the blood group distribution among 1000 people was as follows: 300 had blood group A, 325 had blood group B, 250 had O and 125 AB. Out of this group a person was selected at random, calculate his probability of having blood group AB

b) Five friends Ahmad, Ali, Akbar, Nasir and Shehbaz went on summer vacation

Average monthly income,

$$P \text{ and } Q = 5050$$
$$Q \text{ and } R = 6250$$
$$P \text{ and } R = 5200$$

find the average income of P

By using formula,

$$\text{Mean} = \frac{\text{sum of observation}}{\text{No. of observation}}$$

$$\Rightarrow 5050 = \frac{P+Q}{2}$$

$$P+Q = 10,100 \rightarrow ①$$

$$6250 = \frac{Q+R}{2}$$

$$Q+R = 12,500 \rightarrow ②$$

$$5200 = \frac{P+R}{2}$$

$$P+R = 10,400 \rightarrow ③$$

By adding the three equations.

$$P+Q+Q+R+P+R = 10,100 + 12,500 + 10,400$$

$$2P+2Q+2R = 33,000$$

$$2(P+Q+R) = 33,000$$

$$P+Q+R = \frac{33,000}{2}$$

$$P+Q+R = 16500$$

$$P + 12,500 = 16,500$$

$$P = 16,500 - 12,500$$

$$P = 4000$$