

$$15. P(\text{queen}) = \frac{1}{5}$$

$$P(\text{ace}) = \frac{1}{4}$$

$$P(\text{queen}) = \frac{0}{4}$$

$$= 0$$

$$16. \text{no. of defective pens} = 12$$

$$\text{no. of good pens} = 132$$

$$\text{total no of pens} = 12 + 132$$

$$= 144$$

$$P(\text{good pens}) = \frac{132}{144}$$

$$= \frac{11}{12}$$

$$17. \text{total bulbs} = 20$$

$$\text{no. of defective bulbs} = 4$$

$$\text{no. of non defective bulbs} = 20 - 4$$

$$= 16$$

$$\textcircled{1} P(\text{defective bulb}) = \frac{4}{20}$$

$$= \frac{1}{5}$$

$$\text{no. of remaining bulbs} = 19$$

$$P(\text{non defective bulbs}) = \frac{15}{19}$$