EduSahara™ Learning Center Assignment

Grade : Class X, SSC
Chapter : Probability
Name : Box problems

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1. A box contains 15 white marbles, 75 red marbles, 70 blue marbles and 20 gray marbles. One marble is drawn at random from the box. Find the probability that the marble drawn is white

   (i) $\frac{11}{12}$ (ii) $\frac{1}{6}$ (iii) $\frac{2}{13}$ (iv) $\frac{1}{12}$ (v) 0

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2. A bag contains 70 black marbles, 60 yellow marbles, 55 orange marbles and 15 red marbles. One marble is drawn at random from the bag. Find the probability that the marble drawn is not orange

   (i) $\frac{7}{10}$ (ii) $\frac{29}{40}$ (iii) $\frac{30}{41}$ (iv) $\frac{3}{4}$ (v) $\frac{11}{40}$

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3. A bag contains 40 yellow balls, 8 white balls, 48 blue balls and 60 black balls. One ball is drawn at random from the bag. Find the probability that the ball drawn is white or black

   (i) $\frac{16}{39}$ (ii) $\frac{6}{13}$ (iii) $\frac{17}{39}$ (iv) $\frac{9}{20}$ (v) $\frac{22}{39}$

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4. A box contains 8 gray balls, 30 blue balls, 10 orange balls and 12 yellow balls. One ball is drawn at random from the box. Find the probability that the ball drawn is neither blue nor yellow

   (i) $\frac{3}{10}$ (ii) $\frac{1}{5}$ (iii) $\frac{4}{11}$ (iv) $\frac{7}{10}$ (v) $\frac{2}{5}$

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5. A carton consist of 105 shirts of which 86 are good, 14 have minor defects and 5 have major defects. Arjun, a trader, will only accept the shirts which are good, but Seema, another trader, will only reject the shirts which have major defects. One shirt is drawn at random from the carton. What is the probability that it is acceptable to Arjun?

   (i) $\frac{86}{105}$ (ii) $\frac{19}{105}$ (iii) $\frac{29}{35}$ (iv) $\frac{87}{106}$ (v) $\frac{17}{21}$

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6. A carton consist of 76 shirts of which 62 are good, 13 have minor defects and 1 have major defects. Salman, a trader, will only accept the shirts which are good, but Saraswathi, another trader, will only reject the shirts which have major defects. One shirt is drawn at random from the carton. What is the probability that it is acceptable to Saraswathi?

   (i) $\frac{1}{76}$ (ii) $\frac{37}{38}$ (iii) $\frac{75}{76}$ (iv) $\frac{76}{77}$ (v) 1

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7. A lot of 33 bulbs contain 9 defective ones. One bulb is drawn at random from the lot. What is the probability that this bulb is defective ?

   (i) $\frac{1}{3}$ (ii) $\frac{4}{11}$ (iii) $\frac{2}{11}$ (iv) $\frac{8}{11}$ (v) $\frac{3}{11}$

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8. A lot of 33 bulbs contain 13 defective ones. One bulb is drawn at random from the lot. Suppose the bulb drawn is not defective and is not replaced. Now one bulb is drawn at random from the rest. What is the probability that this bulb is not defective ?

   (i) $\frac{5}{8}$ (ii) $\frac{13}{32}$ (iii) $\frac{20}{33}$ (iv) $\frac{9}{16}$ (v) $\frac{19}{32}$

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9. A box contains 90 discs which are numbered from 1 to 90. If one disc is drawn at random from the box, find the probability that it bears a two-digit number

   (i) 1 (ii) $\frac{4}{5}$ (iii) $\frac{10}{11}$ (iv) $\frac{9}{10}$ (v) $\frac{1}{10}$

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10. A box contains 90 discs which are numbered from 1 to 90. If one disc is drawn at random from the box, find the probability that it bears a perfect square number

(i) $\frac{2}{11}$ (ii) $\frac{1}{10}$ (iii) $\frac{1}{5}$ (iv) 0 (v) $\frac{9}{10}$

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11. A box contains 80 discs which are numbered from 1 to 80. If one disc is drawn at random from the box, find the probability that it bears a number divisible by 5

(i) 0 (ii) $\frac{4}{5}$ (iii) $\frac{1}{5}$ (iv) $\frac{2}{5}$ (v) $\frac{1}{3}$

Assignment Key

1) (iv)
2) (ii)
3) (iii)
4) (i)
5) (i)
6) (iii)
7) (v)
8) (v)
9) (iv)
10) (ii)
11) (iii)