

Probability

1. There are 3 red balls, 4 yellow balls and 5 black balls in a bag. 4 balls are drawn from the bag at one go. Which of the following is not possible?
(A) All the 4 balls are yellow.
(B) All the 4 balls are black.
(C) All the 4 balls are red.
(D) There will be 2 red balls and 2 yellow balls.
(E) There will be 2 yellow balls and 2 black balls. ()
2. There are 4 black balls and some red balls in a bag. The chance that a ball taken out is red is $\frac{3}{4}$. There are _____ red balls.
(A) 7
(B) 8
(C) 9
(D) 10
(E) 12 ()
3. There are 3 red balls and 5 white balls in a bag. What is the chance that a ball drawn at random is a
(a) white ball?
(b) a red ball?
4. Two dice are rolled at the same time. What is the probability that the sum of the two numbers is odd?

Probability

1. There are only 3 red balls. It is impossible to have 4 red balls at one go.
The answer is C.
2. $P(\text{red}) = \frac{3}{4} = \frac{3 \times 4}{4 \times 4} = \frac{12}{16}$
 $16 - 4 = 12$ red balls
The answer is E.
3. (a) $P(\text{white ball}) = \frac{5}{8}$
(b) $P(\text{red ball}) = \frac{3}{8}$
4. The sample space is as shown in Example 3. There are 36 possible outcomes.
The events that the sum is odd:
(1, 2) (2, 1) (3, 2) (4, 1) (5, 2) (6, 1)
(1, 4) (2, 3) (3, 4) (4, 3) (5, 4) (6, 3)
(1, 6) (2, 5) (3, 6) (4, 5) (5, 6) (6, 5)
 $3 \times 5 = 15$
 $P(\text{sum is odd}) = \frac{15}{36}$