

Events Involving “Not” and “Or”

Contemporary Math (MAT-130)

Solve each probability problem.

1. What is the probability of not getting a 2 when a single die is rolled?
2. What is the probability of rolling a 2 or a 4 when a single die is rolled?
3. What is the probability of rolling a prime number or an even number when a single die is rolled?
4. If a single card is drawn from a standard 52-card deck what is the probability that it is not a spade?
5. If a single card is drawn from a standard 52-card deck what is the probability that it is a club or a king?
6. If a single card is drawn from a standard 52-card deck what is the probability that it is a club or not a face card?
7. If a single card is drawn from a standard 52-card deck what is the probability that it is a spade or a diamond?
8. If two dice are rolled what is the probability of not getting doubles?
9. If two dice are rolled what is the probability that the sum is a multiple of 3 or a multiple of 4?
10. The probability that John will visit the Washington monument is .35. What is the probability that he will not visit the Washington monument?
11. The probability that Lauren will go shopping is .25, the probability that she will go see a movie is .40, and the probability that she will go to both is .15. What is the probability that she will go see a movie or that she will go shopping?
12. The probability that it will rain tomorrow is .55. The probability that David will go to the water park is .10. The probability that David will go to the water park or that it will rain is .59. What is the probability that David will go to the water park in the rain?
13. If a coin is flipped 5 times what is the probability of not getting all heads.
14. If a coin is flipped four times what is the probability of getting no tails or one tail?
15. If a coin is flipped six times what is the probability of not getting the same side every time?

The following table gives the probabilities of the number of defective cell phones in a shipment. Use the table to find the probability of each event.

x	P(x)
0	0.15
1	0.20
2	0.32
3	0.27
≥ 4	0.06

16. No defective cell phones.
17. Two or three defective cell phones.
18. Less than 4 defective cell phones.
19. At least 1 defective cell phone.

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Solutions:

1. $\frac{5}{6}$
2. $\frac{1}{3}$
3. $\frac{5}{6}$
4. $\frac{3}{4}$
5. $\frac{4}{13}$
6. $\frac{43}{52}$
7. $\frac{1}{2}$
8. $\frac{5}{6}$
9. $\frac{5}{9}$
10. .65
11. .5
12. .06
13. $\frac{31}{32}$
14. $\frac{5}{16}$
15. $\frac{31}{32}$
16. .15
17. .59
18. .94
19. .85