1. Toss a coin five times. What is the probability of getting “heads” 5 times?
2. A free throw is a penalty shot in basketball. One of the NBA’s best free throw shooters is Stephen Curry. He makes 90.6% of the free throws he attempts. Assume each free throw attempt is independent. What is the probability he makes 6 free throws in a row?
3. Stephen Curry is fouled in many 3-point situations, so he often takes 3 free throws at a time. When he takes 3 free throws, what is the probability he makes the first two but misses the last one?
4. Stephen Curry makes 90.6% of the free throws he attempts. Assume each of his free throw attempts are independent. What is the probability he makes at least one of his next 4 free throws?
5. You have a jar with 12 blue marbles and 8 red marbles. Imagine you sample marbles without replacement. What is the probability of drawing the following: blue, then red, then blue?
6. There are 3 red marbles, 1 blue marble, and 2 yellow marbles in a bag. Once a marble is selected, it is replaced. Find P(3 red marbles).
7. There are 3 red marbles, 1 blue marble, and 2 yellow marbles in a bag. Once a marble is selected, it is not replaced. Find P(3 red marbles)
8. The probability of getting an A in English is 20% and the probability of getting an A in math is 40%.  The probability of getting an A in both classes is 0.04. Are the two events independent?
9. P(A) = 40%, P(B|A) = 20%, P(B) = 30% find P(A or B).
10. P(A) = 40%, P(B|A) = 20%, P(B) = 30% find P(A and B).
11. P(A) = 40%, P(B) = 30%, for independent events, find P(A or B)
12. P(A) = 40%, P(B) = 30%, for independent events, find P(A and B)

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| 1. P(A) = 40%, P(B) = 30%, for disjointed events, find P(A or B) |
| |  | | --- | |  |  1. P(A) = 40%, P(B) = 30%, for disjointed events, find P(A and B) |

1. 20% of the people read newspaper A, 30% read newspaper B. 10% read both newspapers. What percent read no newspapers? Are reading newspaper A and B independent events?
2. It is estimated that 50% of emails are spam emails. Some software has been applied to filter these spam emails before they reach your inbox. A certain brand of software claims that it can detect 99% of spam emails, and the probability of a false positive (a non-spam email detected as spam) is 5%. Now if an email is detected as spam, then what is the probability that it is in fact a non-spam email?