

# Probability Worksheet #9 (All)

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

*Do the work on a separate piece of paper and show all your work. The correct answers are on at the bottom of the page*

***Find the probability for each problem below.***

1. You roll a single die numbered from 1 to 6. What is the probability of rolling an odd number, expressed as a fraction?	2. A jar contains 12 caramels, 7 mints and 16 dark chocolates. What is the probability of selecting a mint expressed as a fraction?
3. The numbers 4 through 14 are placed in a bowl and drawn at random then replaced after being drawn. Is it likely or unlikely you will draw a number less than 7?	4. In a deck of 52 playing cards, what is the probability of drawing a spade expressed as a decimal?
5. The letters that form the word MISSISSIPPI are placed in a bowl. What are the odds of choosing a "P"?	6. In a deck of 52 playing cards, are the odds favorable that you will draw a heart or a diamond?
7. There is a jar of jelly beans with the following flavors: 12 are grape, 17 are blueberry, 5 are pineapple and 13 are coconut. What is the probability, expressed as a percent, of selecting either a grape or blueberry replacing it and then a coconut or pineapple?	8. There are 29 students available to represent the upperclassmen at a fair. 13 are juniors and 16 are seniors. What is the probability, as a percent that a senior and junior will be chosen?
9. In a deck of 52 playing cards what is the probability, as a fraction, of drawing a picture card (A,K,Q,J) replacing it and then drawing either a heart or a diamond?	10. There are 12 men on the basketball team. 2 are centers, 5 are guards, the rest a forwards. What is the probability, as a percent, that out of two players chosen at random they would be a guard and a forward?
11. You have a jar of marbles in front of you with the following colors: 7 - red, 12 - blue, 6 - yellow and 9 - white. What are the odds of selecting marble that is not blue, replacing it and then one that is blue?	12. There are 15 men on the roster of the baseball team. 2 are catchers, 6 are infielders, 4 are outfielders and the remainder are pitchers. What is the probability that out of two players chosen at random they would be a pitcher and a infielder?

*Find the probability for each problem below.*

<p>13. You roll a single die numbered from 1 to 6. Is it likely you will roll a number greater than 4 the first time and a number less than 2 the 2nd?</p>	<p>14. You have the following coins in your pocket: 5 quarters, 6 dimes, 2 nickels and 12 pennies. What is the probability, as a decimal, you will draw a dime and then a penny?</p>
<p>15. The letters that form the word ALGEBRA are placed in a bowl. What is the probability, as a percent, of choosing a letter other than "A" and then choosing an "A"?</p>	<p>16. In a deck of 52 playing cards, what is the probability, as a fraction, of drawing either a heart or a diamond than a spade or a club if each card is returned to the deck before drawing the next one?</p>
<p>17. You have a jar of jelly beans in front of you with 12 - lime, 17 - papaya, 5 - mango and 13 - bubble gum. What is the probability, as a fraction, of selecting either a lime or bubble gum followed by a papaya?</p>	<p>18. You roll a die and then flip a coin. What is the probability, as a percent, of getting an even number on the die and then a head on the coin?</p>
<p>19. In a deck of 52 playing cards what is the probability, as a fraction, of drawing a picture card (A, K, Q, and J) that is also a diamond then a card numbered 2-9?</p>	<p>20. You flip a coin three times in a row. What is the probability you will get three heads?</p>
<p>21. You have a jar of marbles in front of you 2 are cordovan, 9 are yellow, 3 are white and 7 are red. What is the probability, as a decimal, of selecting a marble that is white or yellow, followed by a marble that is cordovan?</p>	<p>22. In your wallet you have the following paper money: 7 singles, 3 fives, 2 tens and 6 twenties. What is the probability, as a percent, you will draw a 5 and then a 20?</p>
<p>23. After shooting foul shots for 5 minutes, the player had made 35 shots out of 60. Is it likely or unlikely that if he needs to make two free throws to win the game in a row he will do so?</p>	<p>24. The letters that form the word MATHEMATICS are placed in a bowl. Are the odds favorable or unfavorable that he will choose a letter that is a vowel followed by a "T"?</p>

## Answer Key

1.  $3/6$  or  $1/2$
2.  $7/35$  or  $1/5$
3. Unlikely ( $3/11$ )
4. .25
5. 2 : 9
6. No, they are even
7.  $29/47 * 18/47 = 522/2209$  or .236 or 24%
8.  $16/29 * 13/28 = .256$  or 26%
9.  $16/52 * 1/2 = 2/13$
10. 19%
11. 66 : 223
12.  $3/35$
13. Unlikely ( $1/18$ )
14. .12
15. 24%
16.  $1/4$
17.  $425/2162$
18. 25%
19.  $32/663$
20.  $1/8$
21. .06
22. 6%
23. Unlikely (34%)
24. Unfavorable (4 : 51)