

NAME _____ Period _____

**** Compound Probability**

You spin a spinner that has 12 equal-sized sections numbered 1 to 12. Find each probability.

1. $P(3 \text{ or } 4) = \frac{1}{6}$

2. $P(\text{even or } 7) = \frac{7}{12}$

3. $P(\text{even or odd}) = 1$

4. $P(\text{multiple of 3 or odd}) = \frac{2}{3}$
3, 6, 9, 12, 1, 5, 7, 11

5. $P(\text{multiple of 2 or multiple of 3}) = \frac{2}{3}$
2, 4, 6, 8, 10, 12

6. $P(\text{less than 5 or greater than 9}) = \frac{7}{12}$
4, 3, 2, 1, 10, 11, 12

You roll a red number cube and a blue number cube. Find each probability.

7. $P(\text{red 2 and blue 2}) = \frac{1}{6} \cdot \frac{1}{6} = \frac{1}{36}$

8. $P(\text{red odd and blue even}) = \frac{1}{2} \cdot \frac{1}{2} = \frac{1}{4}$

9. $P(\text{red greater than 2 and red 4}) = \frac{2}{3} \cdot \frac{1}{6} = \frac{1}{9}$
3, 4, 5, 6

10. $P(\text{red odd and blue less than 4}) = \frac{1}{2} \cdot \frac{1}{2} = \frac{1}{4}$

11. The probability that Bob will make a free throw is $\frac{2}{5}$. What is the probability that Bob will make his next two free throws?

$\frac{2}{5} \cdot \frac{2}{5} = \frac{4}{25}$

You choose a marble at random from a bag containing 3 blue marbles, 5 red marbles, and 2 green marbles. You replace the marble and then choose again. Find each probability.

12. $P(\text{both blue}) = \frac{3}{10} \cdot \frac{3}{10} = \frac{9}{100}$

13. $P(\text{both red}) = \frac{1}{2} \cdot \frac{1}{2} = \frac{1}{4}$

14. $P(\text{blue then green}) = \frac{3}{10} \cdot \frac{2}{10} = \frac{3}{50}$

15. $P(\text{red then blue}) = \frac{1}{2} \cdot \frac{3}{10} = \frac{3}{20}$

16. $P(\text{green then red}) = \frac{2}{10} \cdot \frac{1}{2} = \frac{1}{10}$

17. $P(\text{both green}) = \frac{2}{10} \cdot \frac{2}{10} = \frac{1}{25}$

You choose a tile at random from a bag containing 2 tiles with X, 6 tiles with Y, and 4 tiles with Z. You pick a second tile without replacing the first. Find each probability.

18. $P(X \text{ then } Y) = \frac{2}{12} \cdot \frac{6}{11} = \frac{1}{11}$

19. $P(\text{both } Y) = \frac{6}{12} \cdot \frac{5}{11} = \frac{5}{22}$

20. $P(Y \text{ then } X) = \frac{6}{12} \cdot \frac{2}{11} = \frac{1}{11}$

21. $P(Z \text{ then } X) = \frac{4}{12} \cdot \frac{2}{11} = \frac{2}{33}$

22. $P(\text{both } Z) = \frac{4}{12} \cdot \frac{3}{11} = \frac{1}{11}$

23. $P(Y \text{ then } Z) = \frac{6}{12} \cdot \frac{4}{11} = \frac{2}{11}$

24. There are 12 girls and 14 boys in math class. The teacher puts the names of the students in a hat and randomly picks one name. Then the teacher picks another name without replacing the first. What is the probability that both students picked are boys?

$\frac{14}{26} \cdot \frac{13}{25} = \frac{14}{50} = \frac{7}{25}$