

**Int 1****HW 9-4  
Probability****Unit 9**

**INSTRUCTIONS:** For each of the following situations, write the probability as a **fraction, a decimal, and a percent**. Round to the hundredths.

**There are 4 blue marbles, 5 red marbles, 1 green marble, and 2 black marbles in a bag. Suppose you select one marble at random. Find each probability.**

1. P(black)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

2. P(green)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

3. P(red)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

4. P(not blue)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

5. P(red or green)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

6. P(blue or black)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

7. P(neither red nor black)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

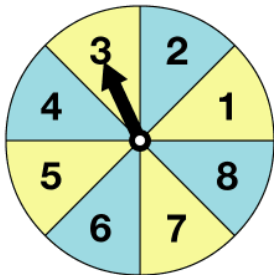
8. P(blue, red, or green)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

9. P(blue, red, green, or black)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

**A spinner like the one at the right is used in a game. Determine the probability of spinning each outcome if the spinner is equally likely to land on each section.**



10. P(a two)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

11. P(an odd number)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

12. P(a one or a four)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

13. P(a ten)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

14. P(a number greater than 1)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

15. P(a number greater than five)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

16. P(not a three)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

**INSTRUCTIONS:** For each of the following situations, write the probability as a *simplified fraction*, a **decimal**, and a **percent**. Do NOT round answers. Use a repeating bar when necessary.

**The spinner shown is spun once.**

17. P(C)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

18. P(G)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

19. P(M or P)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

20. P(B, E, or A)

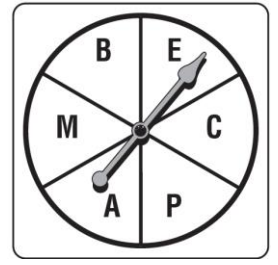
\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

21. P(not T)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

22. P(not M)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_



**Eight cards are marked 3, 4, 5, 6, 7, 8, 9, and 10 such that each card has exactly one of these numbers. A card is picked without looking. Find each probability.**

23. P(9)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

24. P(3 or 4)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

25. P(greater than 5)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

26. P(less than 3)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

27. P(odd)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

28. P(4, 7, or 8)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

29. P(not 6)

\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

30. P(not 5 and not 10)

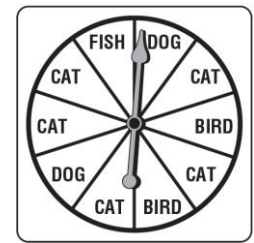
\_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

**The spinner is spun once. Write a sentence stating how likely it is for each event to happen. Justify your answer using math.**

31. Fish

32. Cat

33. Bird, cat or fish



34. Of the water lilies in the pond, 43% are yellow. The other lilies are white. A frog randomly jumps onto a lily. Explain in a sentence what is the probability of the complement of the frog landing on a yellow lily will be.

A number cube is rolled 20 times and lands on 1 two times and on 5 four times. Find the experimental probability. Then compare the experimental probability to the theoretical probability.

35. Landing on a 5

**Theoretical Probability:**

**Experimental Probability:**

**Compare:**

36. Not landing on 1

**Theoretical Probability:**

**Experimental Probability:**

**Compare:**

The spinner at the right is spun 12 times. It lands on blue 1 time.

37. What is the theoretical probability of landing on blue?

38. What is the experimental probability of landing on blue?



39. Are the experimental and theoretical probabilities close? Explain.

**Practice with integers:**

39)  $-5 + (-8)$

40)  $-17 + 25$

41)  $-8 - 6$

42)  $15 - (-6)$

43)  $6(-5)$

44)  $-4(-7)$

45)  $-16 \div (-4)$

46)  $55 \div (-11)$

47)  $-2(-2)(-3)(-2)$

48)  $37 - 15 + (-4)$

49)  $-16 - (-15)$

50)  $5^3 + (-100)$