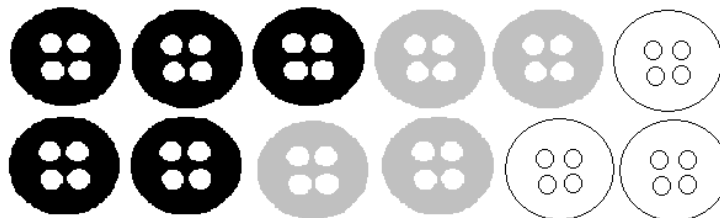Name _____Period _____SCORE:_____/_____=_____%=_____

HW9-4: Independent & Dependent Events
Write ALL ANSWERS as SIMPLIFIED FRACTIONS!

Refer to the buttons on the right to find the probability of each outcome.
Each button is replaced.

1. a white button twice

2. a gray button twice

3. a gray button, then a white button   4. a white button, then a black button

5. a black button twice   6. a black button, then a gray button

Refer to the buttons shown above to find the probability of each outcome. Each button is NOT replaced during the problem but each questions starts with all the buttons.

7. a white button twice   8. a gray button twice

9. a gray button, then a white button   10. A white button, then a black button

11. a black button twice   12. A black button, then a gray button

13) A carnival game wheel has 12 equal sections. Two of the sections contain a star. To win a prize, players must land on the section with the star on two consecutive spins. What is the probability of a player winning?

Mrs. Ameldo's class has 5 students with blue eyes, 7 with brown eyes, 4 with hazel eyes, and 4 with green eyes. Two students are selected at random. Find each probability.

14) P(green then brown)

15) P(two blue)

16) P(hazel then blue)

17) P(brown then blue)

In a bag, there are 5 red marbles, 6 white marbles, 3 blue marbles, and 7 green marbles. Once a marble is selected, it is <u>not</u> replaced (for that problem). Find the probability of each outcome.

18. a blue marble and then a green

19. A blue marble and then a red marble

20. 2 red marbles in a row

21. 2 green marbles in a row

22. a red marble three times in a row

23. P(white, blue, white)

24. P(blue, red, green)

25. P(blue, blue, blue)

A number cube is rolled and a marble is selected at random from a bag containing 2 red, 2 yellow, 2 green, 1 blue and 1 purple marble. Find the following probability. Marbles are replaced.

26) P(1 and red)

27) P(3 and purple)

28) P(even and yellow)

29) P(odd and not green)

Review: Solve each proportion.

32) $\dfrac{3}{5} = \dfrac{x}{72}$

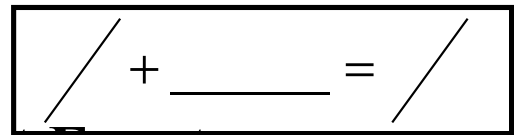**33)** $\dfrac{8}{n} = \dfrac{0.5}{0.9}$

34) $\dfrac{2}{3} = \dfrac{x}{153}$

35) $\dfrac{0.2}{a} = \dfrac{1.8}{27}$

36) 9 is 15% of what number?

37) 57 out of 63 is what percent?

Name _____ Period _____

/   + _____ = /

HW9-4: Independent & Dependent Events

Refer to the buttons on the right to find the probability of each outcome. Each button is replaced.

1. a white button twice
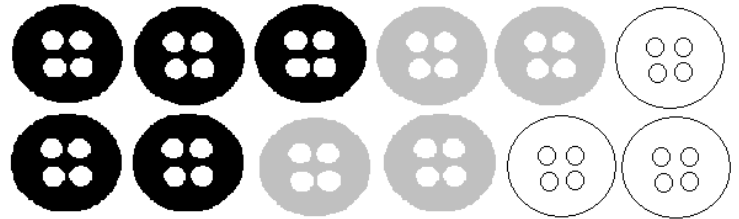
$\dfrac{1}{16}$

2. a gray button twice

$\dfrac{1}{9}$

3. a gray button, then a white button

$\dfrac{1}{12}$

4. a white button, then a black button

$\dfrac{5}{48}$

5. a black button twice

$\dfrac{25}{144}$

6. a black button, then a gray button

$\dfrac{5}{36}$

Refer to the buttons shown above to find the probability of each outcome. Each button is NOT replaced.

7. a white button twice

$\dfrac{1}{22}$

8. a gray button twice

$\dfrac{1}{11}$

9. a gray button, then a white button

$\dfrac{1}{11}$

10. A white button, then a black button

$\dfrac{5}{44}$

11. a black button twice

$\dfrac{5}{33}$

12. A black button, then a gray button

$\dfrac{5}{33}$

13) A carnival game wheel has 12 equal sections. Two of the sections contain a star. To win a prize, players must land on the section with the star on two consecutive spins.

What is the probability of a player winning? $\dfrac{1}{36}$

Mrs. Ameldo's class has 5 students with blue eyes, 7 with brown eyes, 4 with hazel eyes, and 4 with green eyes. Two students are selected at random. Find each probability.

14) P(green then brown)

$\dfrac{7}{95}$

15) P(two blue)

$\dfrac{1}{19}$

16) P(hazel then blue)

$\dfrac{1}{19}$

17) P(brown then blue)

$\dfrac{7}{76}$

In a bag, there are 5 red marbles, 6 white marbles, 3 blue marbles, and 7 green marbles. Once a marble is selected, it is **not** replaced (for that problem). Find the probability of each outcome.

18. a blue marble and then a green

$$\frac{1}{20}$$

19. A blue marble and then a red marble

$$\frac{1}{28}$$

20. 2 red marbles in a row

$$\frac{1}{21}$$

21. 2 green marbles in a row

$$\frac{1}{10}$$

22. a red marble three times in a row

$$\frac{1}{133}$$

23. P(white, blue, white)

$$\frac{3}{266}$$

24. P(blue, red, green)

$$\frac{1}{76}$$

25. P(blue, blue, blue)

$$\frac{1}{1330}$$

A number cube is rolled and a marble is selected at random from a bag containing 2 red, 2 yellow, 2 green, 1 blue and 1 purple marble. Find the following probability. Marbles are replaced.

26) P(1 and red)

$$\frac{1}{24}$$

27) P(3 and purple)

$$\frac{1}{48}$$

28) P(even and yellow)

$$\frac{1}{8}$$

29) P(odd and not green)

$$\frac{3}{8}$$

You and a friend plan to see 2 movies this weekend. You can choose from 6 comedy, 2 drama, 4 romance, 1 science fiction, or 3 action movies. You write the movie titles on a piece of paper, place them in a bag, and each randomly select a movie.

30) What is the probability that neither of you select a comedy?

$$\frac{3}{8}$$

31) Is this a dependent or independent event? Explain? Dependent. After the first piece is taken there is one less piece of paper.

Review: Solve each proportion.

32) $\dfrac{3}{5} = \dfrac{x}{72}$

X = 43.2

33) $\dfrac{8}{n} = \dfrac{0.5}{0.9}$

n = 14.4

34) $\dfrac{2}{3} = \dfrac{x}{153}$

x = 102

35) $\dfrac{0.2}{a} = \dfrac{1.8}{27}$

a = 3

36) 9 is 15% of what number?

60

37) 57 out of 63 is what percent?

about 90.5%