1
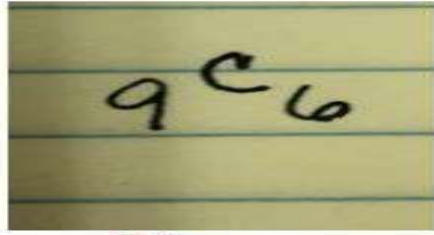

Simplify the expression 9C6

$$\frac{9 \times 8 \times 7 \times 6!}{3! \times 6!} = 84$$

$$\frac{9!}{(9-6)! \times 6!}$$

- a) 84
- c) 24
- ☐ b) 54
- ☐ d) 124

2

Which is greater, $_8C_3$ or $_8C_5$? $=56$

- a) $_8C_3 = _8C_5$
- c) $_8C_3 < _8C_5$

$$\frac{8 \times 7 \times 6 \times 5!}{5! \times 3!} = 56$$

- ☐ b) $_8C_3 > _8C_5$
- ☐ D) $8C_3 \neq 8C_5$

3

There are 10 students in a class: 5 boys and 5 girls. If the teacher picks a group of 3 at random, what is the probability that everyone in the group is a girl? 1

- a) 1/12
- c) 1

$5+4+3 = 12$

- ☐ b) 1/2
- ☐ d) 1/5

4

The outcome of one event does influence the outcome of the other event.

- a) mutually exclusive event
- c) dependent event
- ☐ b) probability
- ☐ d) simple probability

5

Color	Number of Times Landed
Red	6
Yellow	5
Blue	4
Green	10

25

Andrew picks one marble at a time from a box and replaces it. He repeats this process 25 times and records the results in the table. Based on the table, which color marble has an experimental probability of 1/5?

- a) Yellow
- c) Blue

$$\frac{5}{25} = \frac{1}{5}$$

- ☐ b) Red
- ☐ d) Green

6

What is the r value for choosing 5 cards from a standard deck of cards?

a) 2   ☐ b) 5

c) 13   ☐ d) 52

7

A basket contains 4 green marbles and 8 blue marbles. A marble is drawn without replacement. Then another marble is drawn. What is the probability that both marbles willbe green?

$P(Not\ M) =$

a) 0.11   ☐ b) 0.61

c) 0.09 $\frac{4}{12} \times \frac{3}{11} = 0.09$ ☐ d) 0.47

8

A box contains 5 purple marbles, 3 green marbles and 2 orange marbles. Draws are made without replacement. P(orange,green)

a) 1/15 $\frac{2}{10} \times \frac{3}{9} = \frac{1}{15}$ ☐ b) 2/15

c) 3/31   ☐ d) 1/5

9

A ten sided die is rolled.

P (3 or 5)

$\frac{1}{10} + \frac{1}{10} = \frac{2}{10} = \frac{1}{5}$

a) 3/10   ☑ b) 1/5

c) 1/10   ☐ d) 25%

10

A box has 3 limes, 5 grapes, and 2 oranges.

P (NOT lime)

a) 3/10 $1 - \frac{3}{10} = \frac{7}{10}$ ☐ b) 30%

c) 7/10   ☐ d) Answer Not Here

11

There are 5 red roses, 3 yellow roses, and 8 white roses in a tray. If Stephanie picked 2 roses one after the other without replacing, then what is the probability of picking a white rose first and a red rose next?

a) 1/6 $\frac{8}{16} \times \frac{5}{15} = \frac{1}{6}$ ☐ b) 5/6

c) 1/3   ☐ d) 2/3

12

There are 2 violet balls and 4 pink balls in a bag. If two balls are drawn one after the other, then what is the probability of getting violet first and pink next, if the first ball drawn is replaced?

a) 1/3

$\dfrac{2}{6} \times \dfrac{4}{6} = \dfrac{2}{9}$

☐ (b) 2/9

c) 1/6

☐ d) 1/4

13

What is the probability of rolling an even number on the first roll of a number cube and rolling an odd number on the second roll?

a) 1/4

$\dfrac{3}{6} \times \dfrac{3}{6} = \dfrac{9}{36} = \dfrac{1}{4}$

☐ b) 1

c) 1/8

☐ d) 1/2

14

Let A and B be independent events. If P(A) = 0.5 and P(B) = 0.26, what is P(A and B)

a) 0.52

$0.5 \times 0.26 = 0.13$

☐ (b) 0.13

c) 0.24

☐ d) More information is needed to determine this value.

15

Assume the events A and B are independent events. If P(A and B) = 0.25 and P(A) = 0.4, what is P(B)?

a) 0.65

$P(B) = \dfrac{0.25}{0.4} = 0.625$

☐ (b) 0.625

c) 0.15

☐ d) 1.6

16

Which formula do you use when two events are NOT mutually exclusive?

a) P(A or B) = P(A) + P(B)

☐ b) P(A or B) = P(A) + P(B) - P(both)

c) P(A and B) = P(A) * P(B)

☐ d) P (A and B) = P(A) * P(B|A)

17

A coin is tossed and a number cube is rolled. Find the probability, P(heads and 7).

غير موجود 7

a) 1/14

☐ b) 1/2

c) 0

☐ d) 1/7

18 . There are 5 red roses, 3 yellow roses, and 8 white roses in a tray. If Stephanie picked 2 roses one after the other without replacing, then what is the probability of picking a white rose first and a red rose next?

$\frac{8}{16} \times \frac{8}{15} = \frac{1}{6}$

- (a) 1/6
- c) 1/3
- ☐ b) 5/6
- ☐ d) 2/3

19 There are 6 red marbles, 5 green marbles, and 4 yellow marbles in a bag. If Joe picks 2 marbles one after the other without replacement, then what is the probability that both are red in color?

$\frac{6}{15} \times \frac{5}{14} = \frac{1}{7}$

- a) 2/5
- c) 4/25
- ☐ b) 1/21
- ☐ (d) 1/7

20 If A and B are mutually exclusive, which statement below must be true?

- (a) P(A∩B) = 0
- c) P(A∪B) = 0
- ☐ b) P(A|B) = 0
- ☐ d) P(A) + P(B) = 1

21 If A and B are independent, which statement **must be true**?

- a) P(A∩B) = 0
- c) P(A∪B) = 0
- ☐ (b) P(A|B) = P(A)
- ☐ d) P(A) + P(B) = 1

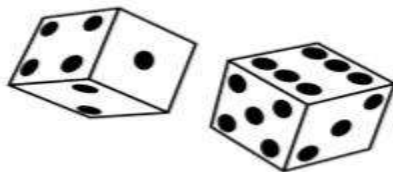**22** If you roll one die, what is the probability of getting an even number or a multiple of 3? $B = \{3, 6\}$ / $A = \{2, 4, 6\}$

$\frac{3}{6} + \frac{2}{8} - \frac{1}{6} < \frac{2}{3}$

- a) 1/3
- c) 1/2
- ☐ (b) 2/3
- ☐ d) 1/6

23

If you roll one die, what is the probability of getting an odd number or a 4?
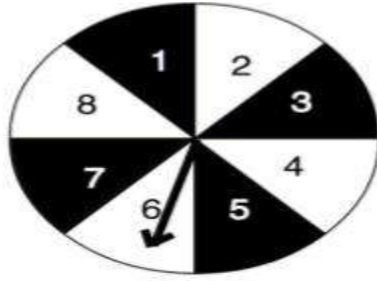
$B = \{4\}$

$A = \{1, 3, 5\}$

$\frac{3}{6} + \frac{1}{6} = \frac{4}{6} = \frac{2}{3}$

- (a) 2/3
- c) 1/2
- ☐ b) 1/3
- ☐ d) 1/6

24

Which of the following shows how to determine P(shaded number or number less than five)?

A

$A = \{1, 3, 5, 7\} \rightarrow P(A) = \frac{4}{6}$

B

$B = \{1, 2, 3, 4\} \rightarrow P(B) = \frac{4}{6}$

$A \cap B = \{1, 3\} \rightarrow P(A \cap B) = \frac{2}{6}$

a) 4/8 + 4/8 - 2/8 ⬤

b) 4/9 + 2/8 - 4/8 ☐

c) 4/8 + 6/8 + 2/8

d) 2/8 + 4/8 - 4/8 ☐

25

A farm has 5 brown cows and 10 white cows. A fence is open and two cows escape. What is the probability that it will be a brown cow, then a white cow?

a) 5/15 + 10/14

$P(A) = \frac{5}{15}$

b) 5/15 x 4/15 ☐

c) 5/15 x 10/14 ⬤

$P(B) = \frac{10}{14}$

d) 5/15 x 10/15 ☐

26

	Steelers	Packers	Subtotal
Male	40	50	90
Female	35	25	60
Subtotal	75	75	150

Which of the following shows how to determine P(packers or male)?

A

$P(A \cap B) = \frac{50}{150}$

B

$P(A) = \frac{75}{150}$, $P(B) = \frac{90}{150}$

a) 75/150 + 90/150 - 50/150

b) 75/150 + 35/150 - 25/150 ☐

c) 50/150 + 40/150 + 25/150

d) 90/150 + 50/150 - 75/150 ☐

27

A survey found that 19% of the population owned dogs, 14% owned cats, and 6% of the population owned both a cat and a dog? Find the probability that a person owns a cat or a dog.

a) 0.19 + 0.14 + 0.06

b) 19/100 + 14/100 - 6/100 ☐ ⬤

c) 0.06 + 0.14 - 0.19

d) 19/100 + 6/100 -14/100 ☐

28

Which of the following shows how to determine when a die is rolled P(multiple of 2 or a multiple of 3)?

A

B

$\{2, 4, 6)$ | $\{3, 6\}$

a) 2/6 + 1/6 - 3/6

b) 4/6 + 2/6 - 1/6 ☐

✓ 3/6 + 2/6 - 1/6

d) 5/6 + 1/6 - 3/6 ☐