A bag contains 15 blue marbles, 25 pink marbles, and 20 white marbles.
In an experiment of five trials, a marble was selected from the bag, and its outcome recorded.
The results are as follows:

blue, blue, pink, pink, pink

The theoretical probability of selecting a pink marble is $\dfrac{5}{12}$ ✓ ∨ .

The experimental probability of selecting a pink marble is $\dfrac{3}{5}$ ✓ ∨ .

QUESTION 2

A coin is tossed 10 times.
The coin landed on heads 3 times, and tails 7 times.

Using these results, the experimental probability of landing on heads is $\dfrac{3}{10}$ ✓ .

The experimental probability of landing on tails is $\dfrac{7}{10}$ ✓ .

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QUESTION 3

Sheikha is at the beach collecting sea shells. She collects 12 brown, 9 green, and 4 sea shells.

She plans to collect 500 sea shells, so she can share them with all her friends.

Sheikha would expect to collect [240 ✓] brown sea shells.

| 100 | 150 | 500 |

QUESTION 4

A number cube is rolled 120 times, and each number was recorded.
In total, twenty 5's were recorded.

Given these results, what is the experimental probability of rolling a 5 ?

○ $\frac{1}{8}$

○ $\frac{1}{10}$

○ $\frac{1}{5}$

◉ $\frac{1}{6}$ ✓

A 6 sided number cube is rolled 10 times.
Each number is recorded, and shown below.

1, 3, 4, 1, 6, 6, 3, 4, 5, 2

Calculate the experimental and theoretical probability of rolling a 2 ?

| ☑ $\frac{1}{10}$ ✓ | ☐ $\frac{3}{5}$ | ☐ $\frac{7}{8}$ |
| ☐ $\frac{1}{5}$ | ☐ $\frac{3}{10}$ | ☑ $\frac{1}{6}$ ✓ |

QUESTION 6   ▶

A small cafe sold 80 cups of tea in a day, and 32 of those cups of tea were green tea.

At the end of the week, if 160 cups of tea are sold in two days, then we expect [64 ✓] cups of green tea to be sold.

| 112 | 80 | 32 |

Two number cubes were rolled together 10 times.
A sum of 3 was rolled 5 times.

What is the experimental probability of rolling a sum of 3 ?

- ⊙ $\frac{1}{2}$ ✓
- ○ $\frac{5}{12}$
- ○ $\frac{3}{10}$
- ○ $\frac{3}{5}$

QUESTION 8 ▶

A spinner with 4 equal colored sections was spun 10 times. The colors on the spinner are Red, Blue, Green and Yellow.
The outcomes were recorded, as shown below.

Red, Blue, Green, Blue, Yellow,
Red, Blue, Yellow, Blue, Red

Find the theoretical, and experimental probability of landing a Red ?

- ☐ $\frac{3}{4}$
- ☑ $\frac{3}{10}$ ✓
- ☐ $\frac{1}{10}$
- ☑ $\frac{1}{4}$ ✓
- ☐ $\frac{9}{10}$
- ☐ $\frac{1}{2}$

A spinner with 4 equal colored sections was spun 10 times. The colors on this spinner are Red, Blue, Green and Yellow.
The outcomes were recorded, as shown below.

Yellow, Blue, Green, Blue, Yellow,
Red, Yellow, Yellow, Blue, Yellow

Find the theoretical and experimental probability of getting a landing a Yellow ?

☑ $\frac{1}{4}$ ✓	☐ $\frac{3}{10}$	☐ $\frac{1}{10}$
☐ $\frac{9}{10}$	☐ $\frac{3}{4}$	☑ $\frac{1}{2}$ ✓

A 6 sided number cube is rolled 20 times. Each number is recorded, and shown below.

1, 4, 4, 1, 6, 6, 3, 4, 5, 2

4, 1, 3, 1, 6, 6, 5, 4, 3, 2

Calculate the experimental and theoretical probability of rolling a 3 ?

Theoretical probability: $\frac{1}{6}$ ✓

Experimental probability: $\frac{3}{20}$ ✓

A bag contains 20 white counters and 50 black counters.
Mariam will select a counter at random, and then write down its color.

The first 10 outcomes are shown in the given table.

Find the theoretical and experimental probability of selecting a white counter ?

Trial	Outcome	Trial	Outcome
1	Black	6	Black
2	Black	7	Black
3	White	8	White
4	Black	9	Black
5	White	10	Black

- ☐ $\frac{1}{10}$
- ☑ $\frac{3}{10}$ ✓
- ☐ $\frac{3}{5}$
- ☑ $\frac{2}{7}$ ✓
- ☐ $\frac{1}{9}$
- ☐ $\frac{4}{5}$

Ahmed's coffee shop sold 10 cups of coffee, and 2 of those cups of coffee were cappuccinos.

At the end of the day, if 200 cups of coffee are sold, then Ahmed would expect [40 ✓] cups of cappuccino to be sold.

A 6 sided number cube is rolled 10 times. Each number is recorded, as shown below.

$$1, \quad 3, \quad 3, \quad 6, \quad 3, \quad 1, \quad 5, \quad 4, \quad 1, \quad 2$$

Find the experimental and theoretical probability of rolling a 1.

☐ $\frac{7}{10}$	☑ $\frac{3}{10}$ ✓	☐ $\frac{1}{10}$
☐ $\frac{9}{10}$	☑ $\frac{1}{6}$ ✓	☐ $\frac{1}{11}$

QUESTION 16

Mansour needs to buy colored pencils.

He buys 1 red, 2 yellow and 2 blue pencils.
In total, he will buy 25 colored pencils.

How many yellow pencils will Mansour expect to buy?

Mansour needs to buy colored pencils.

He buys 1 red, 2 yellow and 2 blue pencils.
In total, he will buy 25 colored pencils.

How many red pencils will Mansour expect to buy ?

| ○ 20 | ○ 15 | ◉ 5 ✓ | ○ 10 |

Mansour needs to buy colored pencils.

He buys 1 red, 2 yellow and 2 blue pencils.
In total, he will buy 25 colored pencils.

How many blue pencils will Mansour expect to buy?

| ○ 20 | ○ 5 | ○ 15 | ◉ 10 ✓ |

Haya is preparing a snack bag for her friends.
Inside each bag, there is 1 apple, 6 pieces of candy, 3 cheese sticks, and 10 strawberries.

Haya is going to buy 400 snacks.

How many apples will Haya expect to buy ?

○ 50	◉ 20 ✓
○ 70	○ 60

Haya is preparing a snack bag for her friends.
Inside each bag, there is 1 apple, 2 oranges, 3 bananas, 4 strawberries and 10 dates. Haya is going to buy 400 snacks.

How many oranges will Haya expect to buy ?

○ 50	○ 75
○ 100	◉ 40 ✓

A bag contains 10 white counters and 15 black counters.
Ali will select a counter at random and write down its color.

If Ali repeats this 300 times, how many white counters should he expect to write down?

| ○ 200 | ○ 140 | ◉ 120 ✓ | ○ 250 |

You randomly select one of the given letters.

The theoretical probability of selecting a vowel is $\dfrac{3}{7}$ ✓ ⌄ .

| E | L | P | X | G | E | O |

Muza is preparing a snack bag for her friends.

Inside each bag, there are 6 carrot sticks, 4 oranges, and 10 dates.

Muza is going to buy 300 snacks.

Muza will expect to buy [150 ✓] dates.

In the front of the store, Sultan always stocks 10 bottles of water, 6 bottles of juice, and 4 bottles of cola.
He will order 500 bottles to be arranged at the front of his store.

How many cola bottles will Sultan expect to order ?

- ○ 150
- ◉ 100 ✓
- ○ 200
- ○ 50

Hamda is at the beach, and picks up 10 white rocks, 7 grey rocks, and 3 black rocks.
She is going to collect 200 rocks in total.

How many grey rocks should Hamda expect to collect ?

| ○ 60 | ○ 50 | ○ 40 | ◉ 70 ✓ |

A bag contains 10 white counters and 15 black counters.
Ali selects a counter at random, and will write down its color.

If Ali repeats this 300 times, how many black counters should he expect ?

| ○ 120 | ○ 210 | ○ 150 | ◉ 180 ✓ |

QUESTION 27 ▶

Haya is preparing a snack bag for her friends.
Inside each bag, there is 1 apple, 2 oranges, 3 bananas, 4 strawberries and 10 dates.
Haya is going to buy 400 snacks.

How many strawberries will Haya expect to buy ?

⦿ 80 ✓	○ 100	○ 40	○ 60

QUESTION 28 ▶

Haya is preparing a snack bag for her friends. Inside each bag, there is 1 apple, 2 oranges, 3 bananas, 4 strawberries and 10 dates.

Haya is going to buy 400 snacks. How many bananas will Haya expect to buy ?

○ 120	⦿ 60 ✓	○ 100	○ 80

QUESTION 29 ▶

Haya is preparing a snack bag for her friends.
Inside each bag, there is 1 apple, 2 oranges, 3 bananas, 4 strawberries, and 10 dates.

Haya is going to buy 400 snacks.

How many dates will Haya expect to buy ?

| ⦿ 200 ✓ | ○ 50 | ○ 150 | ○ 100 |

In front of the store, Sultan always stocks 10 bottles of water, 6 bottles of juice, and 4 bottles of cola.
He will order 500 bottles to be arranged at the front of his store.

How many juice bottles will Sultan expect to order ?

| ○ 50 | ○ 100 | ○ 200 | ⦿ 150 ✓ |

Hamda is at the beach. She picks up 10 white rocks, 7 grey rocks, and 3 black rocks.
She is going to collect 200 rocks in total.

How many black rocks should Hamda expect to collect ?

| ○ 50 | ○ 40 | ◉ 30 ✓ | ○ 60 |

Hamda is at the beach. She picks up 10 white rocks, 7 grey rocks, and 3 black rocks.
She is going to collect 200 rocks in total.

How many white rocks should Hamda expect to collect ?

| ○ 200 | ○ 150 | ○ 50 | ◉ 100 ✓ |

In front of the store, Sultan stocks 10 bottles of water, 6 bottles of juice, and 4 bottles of cola.

He will order 500 bottles to be arranged at the front of his store.

How many water bottles will Sultan expect to order ?

| ⊙ 250 ✓ | ○ 300 | ○ 400 | ○ 350 |

A bag contains 20 blue marbles, 20 purple marbles, and 20 white marbles.

What is the theoretical probability of selecting a purple marble?

| ⊙ $\frac{1}{3}$ ✓ | ○ $\frac{9}{10}$ | ○ $\frac{3}{10}$ | ○ $\frac{2}{3}$ |

A bag contains 20 blue marbles, 20 purple marbles, and 20 white marbles.

What is the theoretical probability of selecting a blue marble?

○ $\frac{2}{3}$

○ $\frac{4}{10}$

◉ $\frac{1}{3}$ ✓

○ $\frac{1}{10}$

A bag contains 20 blue marbles, 20 purple marbles, and 20 white marbles.

The first 10 trials are recorded in the table.

What is the experimental probability of selecting a purple marble?

Trial	Outcome	Trial	Outcome
1	White	6	Blue
2	White	7	Purple
3	Blue	8	White
4	Blue	9	Blue
5	White	10	Blue

○ $\frac{3}{10}$

○ $\frac{7}{10}$

◉ $\frac{1}{10}$ ✓

○ $\frac{9}{10}$

You randomly select one of the letters shown. The theoretical probability of selecting letter R is $\dfrac{1}{9}$ ✓ ⌄ .

A	B	M	N	L	K	A	P	O
A	Z	R	A	A	U	Y	T	R

A bag contains 20 blue marbles, 20 purple marbles, and 20 white marbles.
The first 10 trials are recorded in the table.

What is the experimental probability of selecting a white marble?

Trial	Outcome	Trial	Outcome
1	White	6	Blue
2	White	7	Purple
3	Blue	8	White
4	Blue	9	Blue
5	White	10	Blue

○ $\dfrac{3}{5}$

○ $\dfrac{4}{5}$

○ $\dfrac{1}{5}$

◉ $\dfrac{2}{5}$ ✓

A bag contains 20 blue marbles, 20 purple marbles, and 20 white marbles.

What is the theoretical probability of selecting a white marble?

- $\frac{1}{11}$
- $\frac{9}{10}$
- $\frac{1}{10}$
- $\frac{1}{3}$ ✓

You randomly select one of the letters shown. The theoretical probability of selecting letter A is $\frac{5}{18}$ ✓

A	B	M	N	L	K	A	P	O
A	Z	R	A	A	U	Y	T	R

$\frac{1}{18}$ $\frac{3}{18}$ $\frac{17}{18}$

A bag contains 50 blue marbles, 40 red marbles and 10 green marbles.

What is the theoretical probability of selecting a green marble ?

○ $\frac{1}{4}$

○ $\frac{3}{10}$

◉ $\frac{1}{10}$ ✓

○ $\frac{7}{10}$

A bag contains 40 blue marbles, 40 red marbles
and 20 green marbles.
The first 10 trials are recorded in the table.

What is the experimental probability
of selecting a green marble.

Trial	Outcome	Trial	Outcome
1	Blue	6	Blue
2	Red	7	Green
3	Blue	8	Red
4	Blue	9	Blue
5	Green	10	Red

○ $\frac{4}{5}$

◉ $\frac{1}{5}$ ✓

○ $\frac{2}{5}$

○ $\frac{3}{5}$

A bag contains 40 blue marbles, 40 red marbles and
20 green marbles.
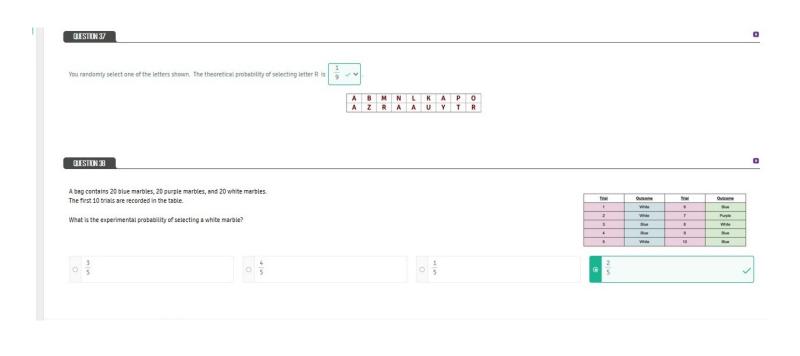The first 10 trials are recorded in the table.

What is the experimental probability of
selecting a red marble.

Trial	Outcome	Trial	Outcome
1	Blue	6	Blue
2	Red	7	Green
3	Blue	8	Red
4	Blue	9	Blue
5	Green	10	Red

- ○ $\frac{1}{10}$
- ◉ $\frac{3}{10}$ ✓
- ○ $\frac{9}{10}$
- ○ $\frac{7}{10}$

QUESTION 44

A bag contains 40 blue marbles, 40 red marbles and 20 green marbles.

What is the theoretical probability of selecting a blue marble?

- ○ $\frac{3}{5}$
- ○ $\frac{1}{5}$
- ○ $\frac{4}{5}$
- ◉ $\frac{2}{5}$ ✓

○ $\frac{}{5}$ ○ $\frac{}{5}$ ○ $\frac{}{5}$ ◉ $\frac{}{5}$ ✓

QUESTION 45 ▶

A bag contains 40 blue marbles, 10 red marbles and 50 green marbles. What is the theoretical probability of selecting a red marble ?

◉ $\frac{1}{10}$ ✓   ○ $\frac{3}{5}$ ○ $\frac{1}{5}$ ○ $\frac{4}{5}$

QUESTION 46 ▶

A bag contains 40 blue marbles, 40 red marbles and 20 green marbles. What is the theoretical probability of selecting a green marble ?

○ $\frac{3}{5}$ ○ $\frac{4}{5}$ ○ $\frac{2}{5}$ ◉ $\frac{1}{5}$ ✓

A spinner with three equal colored sections is spun.
The results are shown in the table.

Find the experimental probability of landing a red.

Trial	Outcome	Trial	Outcome
1	Red	6	Green
2	Yellow	7	Yellow
3	Green	8	Yellow
4	Red	9	Green
5	Red	10	Green

○ $\frac{1}{10}$

◉ $\frac{3}{10}$ ✓

○ $\frac{9}{10}$

○ $\frac{7}{10}$

QUESTION 48 ▶

A spinner with three equal colored sections is spun.
The results are recorded in the table.

Find the experimental probability of landing a green.

Trial	Outcome	Trial	Outcome
1	Red	6	Green
2	Yellow	7	Yellow
3	Green	8	Yellow
4	Red	9	Green
5	Red	10	Green

◉ $\frac{2}{5}$ ✓

○ $\frac{3}{10}$

○ $\frac{1}{10}$

○ $\frac{1}{5}$

A bag contains 20 blue marbles, 20 purple marbles and 20 white marbles.
The first 10 trials are recorded in the table.

What is the experimental probability of selecting a blue marble.

Trial	Outcome	Trial	Outcome
1	White	6	Blue
2	White	7	Purple
3	Blue	8	White
4	Blue	9	Blue
5	White	10	Blue

- ○ $\frac{2}{5}$
- ○ $\frac{1}{5}$
- ○ $\frac{3}{10}$
- ◉ $\frac{1}{2}$ ✓

A spinner with three equal colored sections is spun.
The results are shown in the table.

What is the experimental probability of landing on a yellow ?

Trial	Outcome	Trial	Outcome
1	Red	6	Green
2	Yellow	7	Yellow
3	Green	8	Yellow
4	Red	9	Green
5	Red	10	Green

- ◉ $\frac{3}{10}$ ✓
- ○ $\frac{9}{10}$
- ○ $\frac{1}{10}$
- ○ $\frac{7}{10}$