ONTARIO MATHEMATICS OF DATA MANAGEMENT, GRADE 12, UNIVERSITY PREPARATION (MDM4U) · UNIT A · 25 QUESTIONS

Counting and Probability — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **A bag has 10 marbles, of which 3 are red. The probability of drawing a red marble is**



A $\frac{4}{10}$

B $\frac{3}{12}$

C $\frac{1}{2}$

D $\frac{3}{10}$

Understand It with Pulse | Flag a mistake

2 **A coin is tossed 2 times. The total number of outcomes is**

- A 15
- B 6
- C 4
- D -7

Understand It with Pulse | Flag a mistake

3 **The number of combinations of 2 objects chosen from 5 different objects is**

- A 15
- B 8
- C 20
- D 10

Understand It with Pulse | Flag a mistake

4 **The number of combinations of 2 objects chosen from 9 distinct objects is**

A 41

B 33

C 36

D 72

Understand It with Pulse | Flag a mistake

5 **The number of ways to arrange 2 playing cards chosen from 5 different cards is**



A 20

B 10

C 22

D 31

Understand It with Pulse | Flag a mistake

6 **The number of permutations of 2 objects chosen from 9 distinct objects is**

- A 36
- B 74
- C 83
- D 72

Understand It with Pulse | Flag a mistake

7 **The number of ways to arrange 5 different books in a row is**

- A 24
- B 125
- C 120
- D 25

Understand It with Pulse | Flag a mistake

8 **A die with 6 faces is rolled once. The probability of rolling a 1 is**

- **A** $\frac{1}{3}$
- **B** $\frac{1}{2}$
- **C** $\frac{1}{6}$
- **D** 1

Understand It with Pulse | Flag a mistake

9 **A fair coin is tossed once. The probability of heads is**



A $\frac{1}{3}$

B $\frac{2}{3}$

C $\frac{1}{2}$

D 1

Understand It with Pulse | Flag a mistake

10 **The number of ways to choose a president and a secretary from 4 people is**

- **A** 12
- **B** 16
- **C** 6
- **D** 14

Understand It with Pulse | Flag a mistake

11 **A bag has 20 marbles, of which 5 are red. The probability of drawing a red marble is**

- **A** $\frac{6}{20}$
- **B** $\frac{5}{22}$
- **C** $\frac{1}{4}$
- **D** $\frac{1}{2}$

Understand It with Pulse | Flag a mistake

12 **A coin is tossed 3 times. The total number of outcomes is**

- A 6
- B 10
- C 9
- D 8

Understand It with Pulse | Flag a mistake

13 **The number of combinations of 3 objects chosen from 6 different objects is**

- A 25
- B 20
- C 18
- D 120

Understand It with Pulse | Flag a mistake

14 **The number of combinations of 4 objects chosen from 9 distinct objects is**

A 126

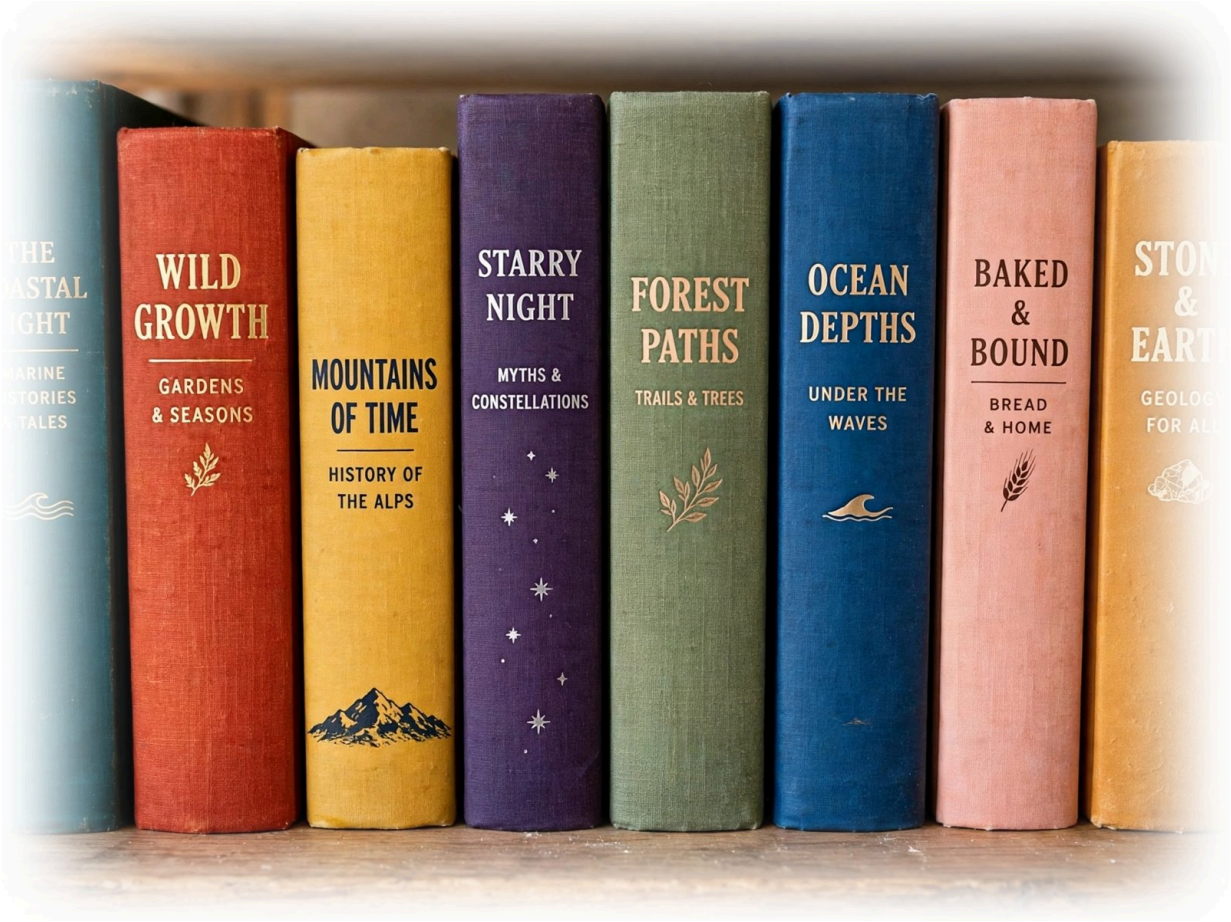
B 131

C 123

D 3024

Understand It with Pulse | Flag a mistake

15 **The number of ways to arrange 2 books chosen from 6 different books in a row is**



A 15

B 30

C 32

D 41

Understand It with Pulse | Flag a mistake

16 **The number of permutations of 3 objects chosen from 9 distinct objects is**

A 504

B 168

C 507

D 84

Understand It with Pulse | Flag a mistake

17 **The number of ways to arrange 6 different books in a row is**

A 120

B 726

C 36

D 720

Understand It with Pulse | Flag a mistake

18 A die with 8 faces is rolled once. The probability of rolling a 1 is

- **A** $\frac{1}{8}$
- **B** $\frac{1}{6}$
- **C** $\frac{1}{2}$
- **D** 1

Understand It with Pulse | Flag a mistake

19 A bag has 12 marbles, of which 4 are red. The probability of drawing a red marble is

- **A** $\frac{5}{12}$
- **B** $\frac{4}{14}$
- **C** $\frac{1}{3}$
- **D** $\frac{1}{2}$

Understand It with Pulse | Flag a mistake

20 **A coin is tossed 4 times. The total number of outcomes is**

A 16

B 8

C 18

D 27

Understand It with Pulse | Flag a mistake

21 **The number of combinations of 2 flags chosen from 7 different flags is**



A 26

B 21

C 19

D 42

Understand It with Pulse | Flag a mistake

22 **The number of combinations of 4 objects chosen from 10 distinct objects is**

A 210

B 215

C 207

D 5040

Understand It with Pulse | Flag a mistake

23 **The number of permutations of 3 objects chosen from 7 different objects is**

A 70

B 213

C 35

D 210

Understand It with Pulse | Flag a mistake

24 **The number of permutations of 2 objects chosen from 10 distinct objects is**

A 45

B 92

C 101

D 90

Understand It with Pulse | Flag a mistake

25 **The number of ways to arrange 7 different books in a row is**



A 5040

B 720

C 5047

D 49

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	D	**10.**	A	**19.**	C
2.	C	**11.**	C	**20.**	A
3.	D	**12.**	D	**21.**	B
4.	C	**13.**	B	**22.**	A
5.	A	**14.**	A	**23.**	D
6.	D	**15.**	B	**24.**	D
7.	C	**16.**	A	**25.**	A
8.	C	**17.**	D		
9.	C	**18.**	A		

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