YUKON FOUNDATIONS OF MATHEMATICS 12 (MFOM-12) · UNIT C · 25 QUESTIONS

Combinatorics 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 student owns 3 shirts and 4 pairs of pants. The number of shirt and pants outfits is ____.**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **The number of ordered choices of 3 students from 5, with no repeats, is ____.**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **The number of ways to choose 3 students from 7, where order does not matter, is ____.**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **The number of ways to arrange 5 different books on a shelf is ____.**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **The probability of two heads in two tosses of a fair coin is**

A 1

B 1

C 3

D 1

Understand It with Pulse | Flag a mistake

6 The probability that two fair dice sum to 7 is

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

Understand It with Pulse | Flag a mistake

7 If an event has probability $\frac{1}{4}$, its odds in favour are

- **A** 1 to 3
- **B** 1 to 4
- **C** 3 to 1
- **D** 4 to 1

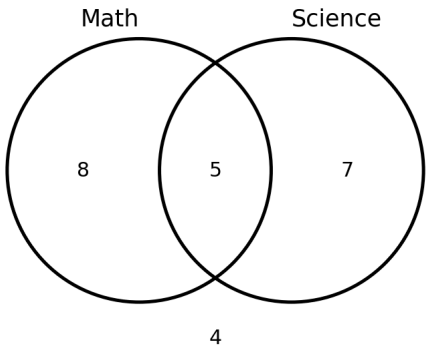
Understand It with Pulse | Flag a mistake

8 **A game pays 10 dollars with probability 0.3 and loses 2 dollars otherwise. The expected value, in dollars, is ____.**

ANSWER _____

Understand It with Pulse | Flag a mistake

9 **The diagram shows students who take Math, Science, or neither. The number who take Math only is**



A 5

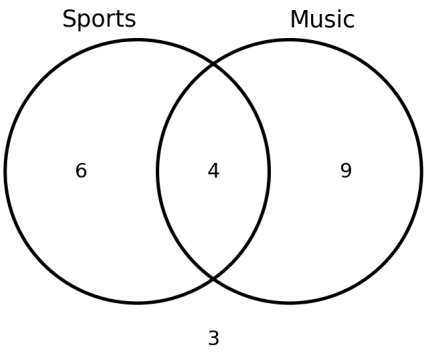
B 7

C 8

D 13

Understand It with Pulse | Flag a mistake

10 **The diagram shows students who join Sports, Music, or neither. The number who join both Sports and Music is**



A 3

B 4

C 6

D 9

Understand It with Pulse | Flag a mistake

11 **The number of ways to choose a committee of 4 from 9 people is _____.**

ANSWER _____

Understand It with Pulse | Flag a mistake

12 **A menu offers 4 main dishes, 3 desserts and 5 drinks. The number of meals with one of each is ____.**

ANSWER _____

Understand It with Pulse | Flag a mistake

13 **The probability of drawing an ace from a standard 52-card deck is**

A 1

B 1

C 1

D 4

Understand It with Pulse | Flag a mistake

14 If the probability of rain is 0.7, the probability of no rain is

A 1

B 3

C 7

D 1

Understand It with Pulse | Flag a mistake

15 A raffle ticket costs 2 dollars. A 100 dollar prize is won with probability $\frac{1}{50}$. The net expected value, in dollars, is ____.

ANSWER _____

Understand It with Pulse | Flag a mistake

16 If the odds in favour of a team are 3 to 2, the probability the team wins is

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

Understand It with Pulse | Flag a mistake

17 The number of distinct arrangements of the letters in LEVEL is ____.

ANSWER _____

Understand It with Pulse | Flag a mistake

18 The number of ways to choose 2 pizza toppings from 6 is ____.

ANSWER _____

Understand It with Pulse | Flag a mistake

19 The probability that two fair dice are both even is

A 1

B 1

C 1

D 1

Understand It with Pulse | Flag a mistake

20 A student owns 5 shirts, 3 pairs of pants and 2 hats. The number of outfits with one of each is ____.

ANSWER _____

Understand It with Pulse | Flag a mistake

21 **The difference between a permutation and a combination is that**

- **A** order matters in a permutation only
- **B** order matters in a combination only
- **C** repeats are allowed in neither
- **D** both count the same choices

Understand It with Pulse | Flag a mistake

22 **A spinner has 8 equal sections, 3 of them red. The probability of landing on red is**

- **A** 1
- **B** 3
- **C** 5
- **D** 3

Understand It with Pulse | Flag a mistake

23 The expected value of one roll of a fair six-sided die is ____.

ANSWER _____

Understand It with Pulse | Flag a mistake

24 There are 3 routes from town A to town B and 5 routes from B to C. The number of routes from A to C through B is ____.

ANSWER _____

Understand It with Pulse | Flag a mistake

25 The probability of rolling a number greater than 4 on a fair die is

A 1

B 1

C 1

D 2

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	12	**10.**	B	**19.**	C
2.	60	**11.**	126	**20.**	30
3.	35	**12.**	60	**21.**	A
4.	120	**13.**	B	**22.**	B
5.	A	**14.**	B	**23.**	3.5
6.	B	**15.**	0	**24.**	15
7.	A	**16.**	C	**25.**	B
8.	1.6	**17.**	30		
9.	C	**18.**	15		

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