Combinatorics and Probability — Practice Test

Yukon Foundations of Mathematics 12 (MFOM-12) • 10 questions

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 **If an event has probability $\frac{2}{5}$, its odds in favour are**

- A 2 to 3
- B 2 to 5
- C 3 to 2
- D 5 to 2

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2 **A game pays 20 dollars with probability $\frac{1}{4}$ and 0 dollars otherwise. The expected value, in dollars, is ____.**

ANSWER _____

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3 **The number of ways to arrange 4 different letters in a row is ____.**

ANSWER _____

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4 **The number of ways to choose 3 students from 10, where order does not matter, is ____.**

ANSWER _____

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5 **A bag holds 4 red marbles and 6 blue marbles. The probability of drawing a red marble is**

A $\frac{1}{5}$

B $\frac{2}{5}$

C $\frac{3}{5}$

D $\frac{2}{3}$

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6 **A two-digit number has a non-zero first digit. The number of such two-digit numbers is ____.**

ANSWER _____

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7 **A spinner game pays 6 dollars with probability $\frac{1}{3}$ and loses 3 dollars otherwise. The net expected value, in dollars, is ____.**

ANSWER _____

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8 **Choosing a team captain and a vice-captain from a group is counted by a**

A permutation, since the roles differ

B combination, since the roles differ

C permutation, since the roles are the same

D combination, since order never matters

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9 The probability of drawing a face card from a standard 52-card deck is

- **A** $\frac{1}{13}$
- **B** $\frac{3}{13}$
- **C** $\frac{1}{4}$
- **D** $\frac{4}{13}$

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10 There are 4 bus routes from town X to town Y and 3 routes from Y to Z. The number of routes from X to Z through Y is ____.

ANSWER _____

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ANSWER KEY

1.	A	**5.**	B	**9.**	B
2.	5	**6.**	90	**10.**	12
3.	24	**7.**	0		
4.	120	**8.**	A		

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