NOVA SCOTIA PRE-CALCULUS 12 · UNIT E · 25 QUESTIONS

Exponential and Logarithmic Functions, Permutations, Combinations and the Binomial Theorem — 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 **Find the number of permutations when arranging 2 items chosen from 6 different items, order mattering.**

ANSWER _____

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2 **Find the number of permutations when arranging 2 items chosen from 7 different items, order mattering.**

ANSWER _____

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3 **Find the number of permutations when arranging 3 items chosen from 8 different items, order mattering.**

ANSWER _____

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4 **Find the number of permutations when arranging 2 items chosen from 5 different items, order mattering.**

ANSWER

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5 **Find the number of permutations when arranging 3 items chosen from 9 different items, order mattering.**

ANSWER

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6 **Find the number of permutations when arranging 3 items chosen from 6 different items, order mattering.**

ANSWER

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7 **Find the number of permutations when arranging 3 items chosen from 10 different items, order mattering.**

ANSWER

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8 **Find the number of permutations when arranging 3 items chosen from 7 different items, order mattering.**

ANSWER _____

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9 **Find the number of permutations when arranging 2 items chosen from 8 different items, order mattering.**

ANSWER _____

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10 **Find the number of permutations when arranging 2 items chosen from 9 different items, order mattering.**

ANSWER _____

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11 **Find the number of permutations when arranging 3 items chosen from 11 different items, order mattering.**

ANSWER _____

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12 **Find the number of permutations when arranging 4 items chosen from 6 different items, order mattering.**

ANSWER _____

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13 **Find the number of permutations when arranging 2 items chosen from 10 different items, order mattering.**

ANSWER _____

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14 **Find the number of permutations when arranging 3 items chosen from 12 different items, order mattering.**

ANSWER _____

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15 The number of permutations of n items taken r at a time is

- A $n! \div (n-r)!$
- B $n! \div r!$
- C n choose r
- D n^r

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16 The number of combinations of n items taken r at a time is

- A $n! \div (n-r)!$
- B $n! \div r! \times (n-r)!$
- C n^r
- D $n \times r$

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17 **The binomial theorem expands**

A a - b only

B a^n only

C $(a + b)^n$

D a product of two binomials only

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18 **In the expansion of $(a + b)^n$, the number of terms is**

A n

B n - 1

C 2n

D n + 1

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19 **Log base 2 of 32 equals**

A 5

B 2

C 32

D 16

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20 **Log base 3 of 27 equals**

A 9

B 3

C 27

D 1

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21 **The inverse of $y = 2^x$ is**

- **A** $y = 2^{-}x$
- **B** $y = x^2$
- **C** y = log base 2 of x
- **D** y = log base 10 of x

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22 **Exponential growth by doubling every step gives values that**

- **A** increase by a fixed amount
- **B** stay constant
- **C** halve each step
- **D** double each step

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23 **The domain of y = log base 2 of x is**

- A x greater than 0
- B all real numbers
- C x less than 0
- D x greater than or = 0

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24 **Log of 1, for any valid base, equals**

- A 1
- B 0
- C the base
- D -1

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25

Log base b of b equals

A 0

B b

C 1

D -1

Understand It with Pulse

Flag a mistake

ANSWER KEY

1.	30	**10.**	72	**19.**	A
2.	42	**11.**	990	**20.**	B
3.	336	**12.**	360	**21.**	C
4.	20	**13.**	90	**22.**	D
5.	504	**14.**	1320	**23.**	A
6.	120	**15.**	A	**24.**	B
7.	720	**16.**	B	**25.**	C
8.	210	**17.**	C		
9.	56	**18.**	D		

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