NOVA SCOTIA MATHEMATICS 12 · FINAL EXAM · 50 QUESTIONS

# Final Exam — 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 simple interest, in dollars, on 500 dollars at 10 percent per year for 2 years.**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **Set A has 18 elements, set B has 12 elements, and their intersection has 4 elements. Find the number of elements in A union B.**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **Find the number of combinations when choosing 3 items from 7 different items, order not mattering.**

ANSWER _____

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4 **Find the value at $x = 2$ of $1x^2 + 3x + 2$ .**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **Find the value of $2 \times 5^3$ .**

ANSWER _____

Understand It with Pulse | Flag a mistake

6 **Find the simple interest, in dollars, on 3000 dollars at 3 percent per year for 2 years.**

ANSWER _____

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7 **Set A has 50 elements, set B has 40 elements, and their intersection has 20 elements. Find the number of elements in A union B.**

ANSWER _____

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8 **Find the number of combinations when choosing 3 items from 6 different items, order not mattering.**

ANSWER _____

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9 **Find the value at $x = 2$ of $2x^2 + 3x + 2$ .**

ANSWER _____

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10 **Find the value of $2 \times 4^5$ .**

ANSWER _____

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11 **Find the simple interest, in dollars, on 4000 dollars at 2 percent per year for 3 years.**

ANSWER _____

Understand It with Pulse | Flag a mistake

12 **Set A has 28 elements, set B has 22 elements, and their intersection has 9 elements. Find the number of elements in A union B.**

ANSWER _____

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13 **Find the number of combinations when choosing 2 items from 4 different items, order not mattering.**

ANSWER _____

Understand It with Pulse | Flag a mistake

14 **Find the value at $x = 4$ of $1x^2 + 2x + 2$ .**

ANSWER _____

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15 **Find the value of $4 \times 3^2$ .**

ANSWER _____

Understand It with Pulse | Flag a mistake

16 **In the formula $A = P1 + r^n$ , P stands for**

- A payment
- B percent
- C principal
- D period

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17 **The empty set has**

- A one element
- B two elements
- C infinite elements
- D no elements

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**18** **The number of permutations of n different items is**

- A $n^2$
- B $2^n$
- C n + 1
- D n!

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**19** **The degree of a polynomial is**

- A the highest power of x in it
- B the number of terms
- C the leading coefficient
- D the constant term

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20 **An exponential function has the variable in**

A the exponent

B the base only

C the coefficient only

D the constant term

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21 **Borrowing money usually costs more when**

A the time is shorter

B the principal is smaller

C payments are larger

D the interest rate is higher

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22 **The complement of set A contains elements**

A in A only

B in every set

C not in A

D in the empty set only

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23 **The probability of two independent events both occurring is**

A the sum of their probabilities

B the larger probability

C the smaller probability

D the product of their probabilities

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**24** **The end behaviour of a polynomial is governed mainly by**

- A its leading term
- B its constant term
- C its middle term
- D its smallest term

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**25** **The natural logarithm uses base**

- A e
- B 10
- C 2
- D pi

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26 **An annual interest rate of 6 percent means 6 percent per**

A month

B week

C year

D day

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27 **The inverse of if P then Q is**

A if Q then P

B if not Q then not P

C P and Q

D if not P then not Q

Understand It with Pulse | Flag a mistake

28 **The probability of either of two mutually exclusive events is**

A the sum of their probabilities

B the product of their probabilities

C zero

D 1

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29 **The factor theorem says x minus a is a factor exactly when**

A the polynomial value at a is zero

B the polynomial value at 0 is zero

C a is zero

D the degree is 1

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30 **A sinusoidal function repeats its values every**

A period

B amplitude

C phase shift

D midline

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31 **Find the simple interest, in dollars, on 1300 dollars at 8 percent per year for 2 years.**

ANSWER _____

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32 **Set A has 41 elements, set B has 29 elements, and their intersection has 14 elements. Find the number of elements in A union B.**

ANSWER _____

Understand It with Pulse | Flag a mistake

33 **Find the number of combinations when choosing 2 items from 11 different items, order not mattering.**

ANSWER _____

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34 **Find the value at $x = 3$ of $2x^2 + 2x + 3$ .**

ANSWER _____

Understand It with Pulse | Flag a mistake

35 **Find the value of $7 \times 2^3$ .**

ANSWER _____

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36 **Find the simple interest, in dollars, on 750 dollars at 12 percent per year for 2 years.**

ANSWER _____

Understand It with Pulse | Flag a mistake

37 **Set A has 29 elements, set B has 31 elements, and their intersection has 15 elements. Find the number of elements in A union B.**

ANSWER _____

Understand It with Pulse | Flag a mistake

38 **Find the number of combinations when choosing 4 items from 9 different items, order not mattering.**

ANSWER _____

Understand It with Pulse | Flag a mistake

39 **Find the value at $x = 3$ of $1x^2 + 3x + 5$ .**

ANSWER _____

Understand It with Pulse | Flag a mistake

40 **Find the value of $5 \times 2^3$ .**

ANSWER _____

Understand It with Pulse | Flag a mistake

41 **Paying off a loan early usually reduces**

A the principal borrowed

B the interest rate

C total interest paid

D the loan term only

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42 **The contrapositive of if P then Q is**

A if Q then P

B if not P then not Q

C if not Q then not P

D P or Q

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**43** **If a coin is tossed twice, the number of possible outcomes is**

- A 2
- B 4
- C 3
- D 6

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**44** **The multiplicity of a zero affects whether the graph**

- A is defined there
- B crosses or touches the x axis there
- C has a maximum there
- D is a line there

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**45** **Log of a quotient equals**

- A the sum of the logs
- B the difference of the logs
- C the product of the logs
- D the log of the sum

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**46** **If the compounding period is monthly, interest is added**

- A once a year
- B 4 times a year
- C 12 times a year
- D every day

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**47** **A valid argument has a conclusion that must follow if**

- **A** the premises are false
- **B** the premises are true
- **C** the conclusion is popular
- **D** the argument is long

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**48** **The probability that a flipped coin shows heads is**

- **A** 1
- **B** $\frac{1}{2}$, written as a decimal 0.5
- **C** 0
- **D** 2

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**49** **Synthetic division is a shortcut for dividing a polynomial by**

- A a quadratic factor
- B a linear factor x minus a
- C a constant
- D another polynomial of higher degree

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**50** **Increasing the frequency of a sine wave**

- A lengthens its period
- B shortens its period
- C raises its midline
- D lowers its amplitude

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# ANSWER KEY

| | | | | | |
|---|---|---|---|---|---|
| **1.** | 100 | **18.** | D | **35.** | 56 |
| **2.** | 26 | **19.** | A | **36.** | 180 |
| **3.** | 35 | **20.** | A | **37.** | 45 |
| **4.** | 12 | **21.** | D | **38.** | 126 |
| **5.** | 250 | **22.** | C | **39.** | 23 |
| **6.** | 180 | **23.** | D | **40.** | 40 |
| **7.** | 70 | **24.** | A | **41.** | C |
| **8.** | 20 | **25.** | A | **42.** | C |
| **9.** | 16 | **26.** | C | **43.** | B |
| **10.** | 2048 | **27.** | D | **44.** | B |
| **11.** | 240 | **28.** | A | **45.** | B |
| **12.** | 41 | **29.** | A | **46.** | C |
| **13.** | 6 | **30.** | A | **47.** | B |
| **14.** | 26 | **31.** | 208 | **48.** | B |
| **15.** | 36 | **32.** | 56 | **49.** | B |
| **16.** | C | **33.** | 55 | **50.** | B |
| **17.** | D | **34.** | 27 | | |

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