NOVA SCOTIA PRE-CALCULUS 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 **If $f(x) = 3x + 2$ and $g(x) = x^2$, find $f + g$ at $x = 5$.**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **Solve square root of $x = 4$, giving x.**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **Find the non permissible value of x for the expression $\frac{1}{x - 4}$.**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **In a right triangle, for angle A the opposite side is 5 and the adjacent side is 12. Find tan A to two decimal places.**

ANSWER _____

Understand It with Pulse | Flag a mistake

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

ANSWER

Understand It with Pulse | Flag a mistake

6 **If $f(x) = 3x + 4$ and $g(x) = x^2$, find $f + g$ at $x = 3$.**

ANSWER

Understand It with Pulse | Flag a mistake

7 **Solve square root of $x = 8$, giving x .**

ANSWER

Understand It with Pulse | Flag a mistake

8 **Find the non permissible value of x for the expression $\frac{1}{x - 8}$.**

ANSWER

Understand It with Pulse | Flag a mistake

9 **In a right triangle, for angle A the opposite side is 7 and the adjacent side is 24. Find tan A to two decimal places.**

ANSWER

Understand It with Pulse | Flag a mistake

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

ANSWER

Understand It with Pulse | Flag a mistake

11 **If $f(x) = 3x + 1$ and $g(x) = x^2$, find $f + g$ at $x = 4$.**

ANSWER

Understand It with Pulse | Flag a mistake

12 **Solve square root of $x = 12$, giving x .**

ANSWER

Understand It with Pulse | Flag a mistake

13 **Find the non permissible value of x for the expression $\frac{1}{x - 12}$.**

ANSWER

Understand It with Pulse | Flag a mistake

14 **In a right triangle, for angle A the opposite side is 9 and the adjacent side is 40. Find tan A to two decimal places.**

ANSWER

Understand It with Pulse | Flag a mistake

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

ANSWER

Understand It with Pulse | Flag a mistake

16 **The graph of y = f(x) + 4 is the graph of f shifted**

A right 4 units

B up 4 units

C left 4 units

D down 4 units

Understand It with Pulse | Flag a mistake

17 **The domain of y = square root of x is**

A all real numbers

B x less than 0

C x greater than 0 only

D x greater than or = 0

Understand It with Pulse | Flag a mistake

18 **A horizontal asymptote describes behaviour as x grows**

- A close to zero
- B equal to 1
- C negative only
- D very large in magnitude

Understand It with Pulse | Flag a mistake

19 **An angle in standard position has its vertex at**

- A the origin
- B the point 1, 0
- C any point on a circle
- D the terminal side

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

- A n! over (n-r)!
- B n! over r!
- C n choose r
- D n^r

Understand It with Pulse | Flag a mistake

21 **The graph of y = f(x) - 1 is the graph of f shifted**

- A left 1 unit
- B up 1 unit
- C down 1 unit
- D right 1 unit

Understand It with Pulse | Flag a mistake

22 **An extraneous solution is a solution that appears during solving but**

- **A** is larger than expected
- **B** is negative
- **C** does not satisfy the original equation
- **D** is a fraction

Understand It with Pulse | Flag a mistake

23 **The function $y = \frac{1}{x}$ has a vertical asymptote at**

- **A** $x = 1$
- **B** $y = 0$
- **C** $y = 1$
- **D** $x = 0$

Understand It with Pulse | Flag a mistake

24 **The reference angle is the acute angle between the terminal side and**

A the x axis

B the y axis

C the origin

D the initial side

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25 **Log base 2 of 32 equals**

A 5

B 2

C 32

D 16

Understand It with Pulse | Flag a mistake

26 **The graph of y = 2 f(x) is the graph of f stretched**

A horizontally by a factor of 2

B vertically by a factor of $\frac{1}{2}$

C vertically by a factor of 2

D horizontally by a factor of $\frac{1}{2}$

Understand It with Pulse | Flag a mistake

27 **If P of 3 equals 0, then x minus 3 is**

A the degree of P

B the remainder

C the leading term

D a factor of P

Understand It with Pulse | Flag a mistake

28 The function $y = \frac{1}{x}$ has a horizontal asymptote at

A y = 0

B y = 1

C x = 0

D x = 1

Understand It with Pulse | Flag a mistake

29 Cos of 0 degrees equals

A 1

B 0

C 0.5

D -1

Understand It with Pulse | Flag a mistake

30 **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

Understand It with Pulse | Flag a mistake

31 **If f(x) = 2x + 2 and g(x) = x^2 , find f + g at x = 7 .**

ANSWER _____

Understand It with Pulse | Flag a mistake

32 **Solve square root of x = 17 , giving x .**

ANSWER _____

Understand It with Pulse | Flag a mistake

33 Find the non permissible value of x for the expression $\frac{1}{x - 17}$.

ANSWER

Understand It with Pulse | Flag a mistake

34 In a right triangle, for angle A the opposite side is 16 and the adjacent side is 30. Find tan A to two decimal places.

ANSWER

Understand It with Pulse | Flag a mistake

35 Find the number of permutations when arranging 4 items chosen from 8 different items, order mattering.

ANSWER

Understand It with Pulse | Flag a mistake

36 If $f(x) = 2x + 5$ and $g(x) = x^2$, find $f + g$ at $x = 3$.

ANSWER

Understand It with Pulse | Flag a mistake

37 **Solve square root of x = 21 , giving x .**

ANSWER _____

Understand It with Pulse | Flag a mistake

38 **Find the non permissible value of x for the expression $\frac{1}{x - 21}$.**

ANSWER _____

Understand It with Pulse | Flag a mistake

39 **In a right triangle, for angle A the opposite side is 21 and the adjacent side is 28. Find tan A to two decimal places.**

ANSWER _____

Understand It with Pulse | Flag a mistake

40 **Find the number of permutations when arranging 4 items chosen from 10 different items, order mattering.**

ANSWER _____

Understand It with Pulse | Flag a mistake

41 **The composition f(g(x)) means**

A apply f first, then g

B add f and g

C apply g first, then f

D multiply f and g

Understand It with Pulse | Flag a mistake

42 **The remainder when a polynomial P is divided by x minus 2 is**

A P of 0

B P of -2

C P of 2

D 0

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43 **A non permissible value is a value that**

A makes the numerator zero

B cannot be used in the expression

C is always negative

D is always a fraction

Understand It with Pulse | Flag a mistake

44 **The cosine function is an**

A odd function

B even function

C linear function

D constant function

Understand It with Pulse | Flag a mistake

45 **The power rule for logs says log of x^n equals**

- **A** xlog n
- **B** nlog x
- **C** $\log \frac{x}{n}$
- **D** n / log x

Understand It with Pulse | Flag a mistake

46 **A function has an inverse function only if it is**

- **A** increasing everywhere
- **B** a polynomial
- **C** one to one
- **D** continuous

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47 **The vertex form of a quadratic shows**

- A the zeros directly
- B the vertex directly
- C the y intercept only
- D the degree only

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48 **The graph of $y = 1 / x + 3$ is shifted from $y = \frac{1}{x}$ by**

- A 3 units down
- B 3 units up
- C 3 units right
- D 3 units left

Understand It with Pulse | Flag a mistake

49 **The unit circle has radius**

A 2

B 1

C pi

D 360

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50 **Pascal triangle gives**

A permutation counts only

B binomial coefficients

C log values

D trig values

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ANSWER KEY

1.	42	**18.**	D	**35.**	1680
2.	16	**19.**	A	**36.**	20
3.	4	**20.**	A	**37.**	441
4.	0.42	**21.**	C	**38.**	21
5.	336	**22.**	C	**39.**	0.75
6.	22	**23.**	D	**40.**	5040
7.	64	**24.**	A	**41.**	C
8.	8	**25.**	A	**42.**	C
9.	0.29	**26.**	C	**43.**	B
10.	720	**27.**	D	**44.**	B
11.	29	**28.**	A	**45.**	B
12.	144	**29.**	A	**46.**	C
13.	12	**30.**	A	**47.**	B
14.	0.23	**31.**	65	**48.**	B
15.	990	**32.**	289	**49.**	B
16.	B	**33.**	17	**50.**	B
17.	D	**34.**	0.53		

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