NORTHWEST TERRITORIES PRE-CALCULUS 11 (MPREC11) · 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 **Which of the following numbers is irrational?**

- A $\sqrt{16}$
- B 0.25
- C $\sqrt{3}$
- D $\frac{3}{7}$

Understand It with Pulse | Flag a mistake

2 **The solutions of $x^2 - 7x + 12 = 0$ are**

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

Understand It with Pulse | Flag a mistake

3 **An angle of -60° in standard position lies in quadrant**

A I

B II

C III

D IV

Understand It with Pulse | Flag a mistake

4 **An investment of 1000 dollars at 10 percent per year, compounded annually, is worth how many dollars after 2 years?**

A 1200

B 1100

C 1210

D 2000

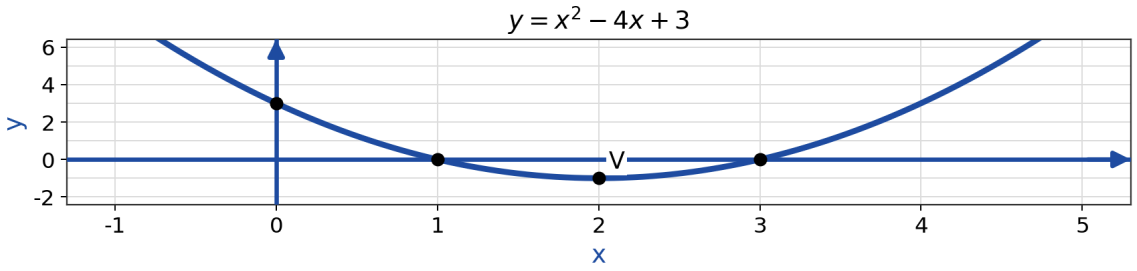
Understand It with Pulse | Flag a mistake

5 **The value of 5^0 is**

- **A** 0
- **B** 5
- **C** 1
- **D** -5

Understand It with Pulse | Flag a mistake

6 **The graph shows y = x² - 4x + 3. The vertex is**



- **A** (2, -1)
- **B** (2, 1)
- **C** (-2, -1)
- **D** (0, 3)

Understand It with Pulse | Flag a mistake

7 **The exact value of cos 240° is**

- A $\frac{1}{2}$
- B $\sqrt{3}/2$
- C $-\sqrt{3}/2$
- D -1/2

Understand It with Pulse | Flag a mistake

8 **An investment of 1000 dollars at 5 percent per year, compounded annually, is worth how many dollars after 1 year?**

- A 1005
- B 1500
- C 1100
- D 1050

Understand It with Pulse | Flag a mistake

9 **The value of $32^{2/5}$ is**

- **A** 2
- **B** 8
- **C** 16
- **D** 4

Understand It with Pulse | Flag a mistake

10 **A ball is thrown upward with height $h(t) = -5t^2 + 20t$. The maximum height, in metres, is**

- **A** 10
- **B** 20
- **C** 40
- **D** 15

Understand It with Pulse | Flag a mistake

11 **The value of sin 270° is**

- A 1
- B 0
- C -1
- D $\frac{1}{2}$

Understand It with Pulse | Flag a mistake

12 **An investment of 3000 dollars at 4 percent per year, compounded annually, is worth how many dollars after 1 year?**

- A 3004
- B 3040
- C 3100
- D 3120

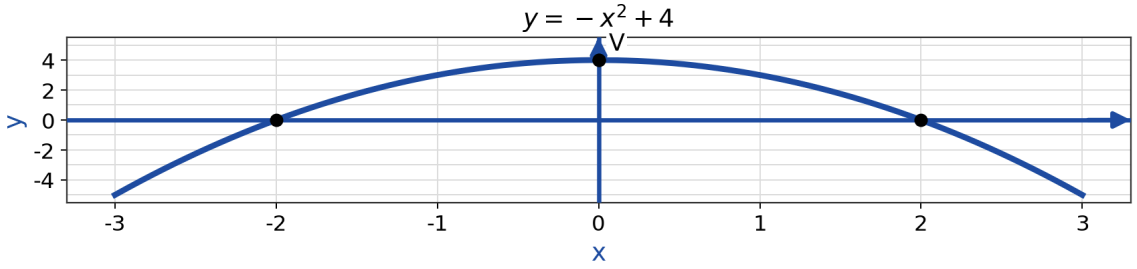
Understand It with Pulse | Flag a mistake

13 **The value of $8^{2/3}$ is**

- **A** 2
- **B** 16
- **C** 4
- **D** 8

Understand It with Pulse | Flag a mistake

14 **The graph shows $y = -x^2 + 4$. The vertex is**



- **A** (0, -4)
- **B** (4, 0)
- **C** (0, 4)
- **D** (-4, 0)

Understand It with Pulse | Flag a mistake

15 **In the right triangle shown, AB = 12, AC = 5, and BC = 13. The value of cos B is**

- A $\frac{5}{13}$
- B $\frac{12}{13}$
- C $\frac{5}{12}$
- D $\frac{12}{5}$

Understand It with Pulse | Flag a mistake

16 **An amount of 1210 dollars due in 2 years at 10 percent per year has a present value, in dollars, of**

- A 1000
- B 1100
- C 990
- D 1210

Understand It with Pulse | Flag a mistake

17 **The radical $\sqrt{50}$ written in simplest form is**

- A $2\sqrt{5}$
- B $5\sqrt{2}$
- C $10\sqrt{5}$
- D $25\sqrt{2}$

Understand It with Pulse | Flag a mistake

18 **The parabola $y = -3x^2 + 2x + 1$ opens**

- A upward and has a minimum value
- B downward and has a maximum value
- C upward and has a maximum value
- D downward and has a minimum value

Understand It with Pulse | Flag a mistake

19 **In a triangle, two sides are 7 and 8 with 60° between them. By the cosine law, the third side is**

A $\sqrt{57}$

B $\sqrt{113}$

C $\sqrt{169}$

D $\sqrt{15}$

Understand It with Pulse | Flag a mistake

20 **An investment of 500 dollars at 4 percent per year, compounded annually, is worth about how many dollars after 3 years?**

A 560

B 620

C 600

D 562.43

Understand It with Pulse | Flag a mistake

21 The difference $\sqrt{50} - \sqrt{8}$ in simplest form is

- A $2\sqrt{2}$
- B $3\sqrt{2}$
- C $4\sqrt{2}$
- D $\sqrt{42}$

Understand It with Pulse | Flag a mistake

22 The equation $x^2 + 5x + 2 = 0$ has

- A no real roots
- B one real root
- C two distinct real roots
- D no roots at all

Understand It with Pulse | Flag a mistake

23 The solutions of cos x = -1/2 for 0° ≤ x < 360° are

- A 60, 300
- B 120, 240
- C 120, 300
- D 60, 240

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24 An investment of 800 dollars at 5 percent per year, compounded annually, is worth about how many dollars after 3 years?

- A 920
- B 840
- C 960
- D 926.10

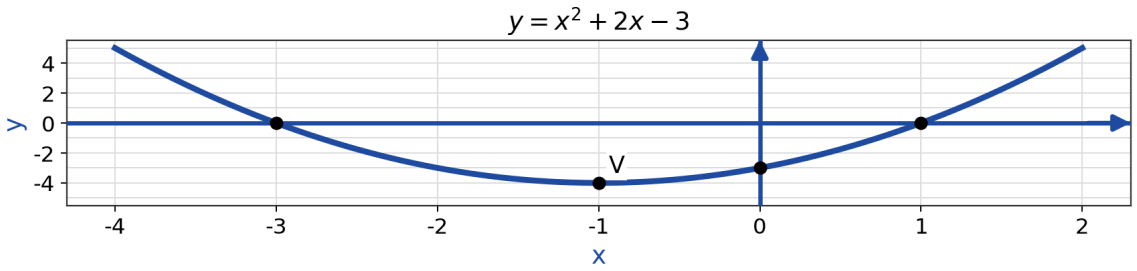
Understand It with Pulse | Flag a mistake

25 **The value of 3^{-2} is**

- **A** -9
- **B** 9
- **C** $\frac{1}{9}$
- **D** -1/9

Understand It with Pulse | Flag a mistake

26 **The graph shows y = x² + 2x - 3. The vertex is**



- **A** (-1, -4)
- **B** (1, -4)
- **C** (-1, 4)
- **D** (0, -3)

Understand It with Pulse | Flag a mistake

27 **The ratio sin θ/cos θ is equal to**

A cot θ

B tan θ

C sec θ

D 1

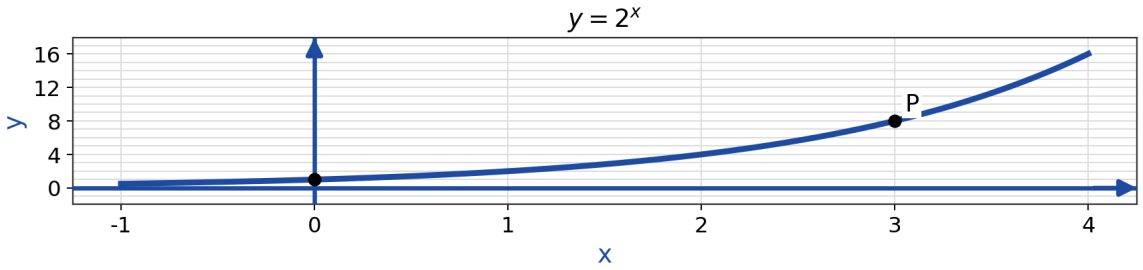
Understand It with Pulse | Flag a mistake

28 **An investment of 800 dollars at 25 percent per year, compounded annually, is worth how many dollars after 2 years? ____.**

ANSWER _____

Understand It with Pulse | Flag a mistake

29 **The graph shows $y = 2^x$. The value of y when x = 3 is**



A 6

B 4

C 9

D 8

Understand It with Pulse | Flag a mistake

30 **The equation $3x^2 - 2x + 1 = 0$ has**

A two distinct real roots

B one real root

C no real roots

D two equal real roots

Understand It with Pulse | Flag a mistake

31 **An angle of 200° in standard position lies in quadrant**

A I

B II

C III

D IV

Understand It with Pulse | Flag a mistake

32 **An investment of 1500 dollars at 4 percent per year, compounded annually, is worth how many dollars after 2 years?**

A 1622.40

B 1560

C 1620

D 1500

Understand It with Pulse | Flag a mistake

33 **The set that contains $\sqrt{2}$ is the set of**

A integers

B rational numbers

C irrational numbers

D whole numbers

Understand It with Pulse | Flag a mistake

34 **The vertex of the parabola $y = x^2 + 4x + 3$ is**

A (2, -1)

B (-2, -1)

C (2, 1)

D (-2, 1)

Understand It with Pulse | Flag a mistake

35 **The exact value of sin 210° is**

A -1/2

B $\frac{1}{2}$

C $-\sqrt{3}/2$

D $\sqrt{3}/2$

Understand It with Pulse | Flag a mistake

36 **An investment of 2000 dollars at 6 percent per year, compounded monthly, is worth about how many dollars after 1 year?**

A 2120

B 2060

C 2010

D 2123.36

Understand It with Pulse | Flag a mistake

37 **The quotient $6^5/6^2$ written as a single power is**

- **A** 6^7
- **B** 6^3
- **C** 6^{10}
- **D** 1^3

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38 **The vertex of the parabola $y = x^2 - 8x + 12$ is**

- **A** (4, -4)
- **B** (-4, -4)
- **C** (4, 4)
- **D** (-4, 4)

Understand It with Pulse | Flag a mistake

39 **In the right triangle shown, AB = 8, AC = 6, and BC = 10. The value of tan B is**

A $\frac{4}{3}$

B $\frac{3}{4}$

C $\frac{6}{10}$

D $\frac{8}{10}$

Understand It with Pulse | Flag a mistake

40 **A town of 5000 people grows at 3 percent per year. After 2 years it has about**

A 5300

B 5150

C 5600

D 5304.50

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41 **The value of $1000^{2/3}$ is**

A 100

B 10

C 1000

D 20

Understand It with Pulse | Flag a mistake

42 **The x-intercepts of $y = x^2 - 5x + 6$ are**

A 2 and 3

B -2 and -3

C 1 and 6

D -1 and -6

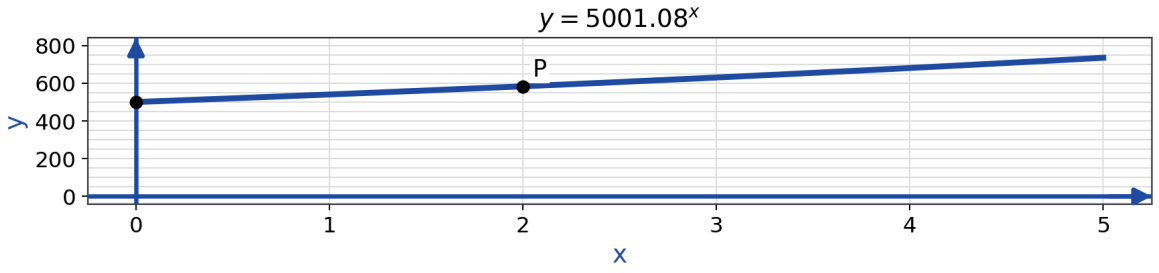
Understand It with Pulse | Flag a mistake

43 **The solutions of sin x = -1/2 for 0° ≤ x < 360° are**

- **A** 30, 150
- **B** 210, 330
- **C** 150, 210
- **D** 210, 300

Understand It with Pulse | Flag a mistake

44 **The graph shows an investment of 500 dollars growing at 8 percent per year. The value, in dollars, after 2 years is**



- **A** 540
- **B** 583.20
- **C** 625
- **D** 500

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45 The sum $2\sqrt{5} + 3\sqrt{5}$ in simplest form is

A $6\sqrt{5}$

B $5\sqrt{10}$

C $5\sqrt{5}$

D $\sqrt{25}$

Understand It with Pulse | Flag a mistake

46 The solutions of $2x^2 - 5x - 3 = 0$ are

A $\frac{1}{2}$ and -3

B -1/2 and 3

C 1 and -3

D -1 and 3

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47 **The value of sin 90° is ____.**

ANSWER _____

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48 **Which statement about compound interest is true?**

A interest earned also earns interest

B interest is paid only on the principal

C the balance never changes

D the rate falls every year

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49 The fraction $10/\sqrt{5}$ with a rational denominator is

- A $2\sqrt{5}$
- B $10\sqrt{5}$
- C $\sqrt{5}/2$
- D $5\sqrt{5}$

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50 The solutions of $x^2 - 10x + 21 = 0$ are

- A 3 and 7
- B -3 and -7
- C 3 and -7
- D -3 and 7

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ANSWER KEY

1. C
2. A
3. D
4. C
5. C
6. A
7. D
8. D
9. D
10. B
11. C
12. D
13. C
14. C
15. B
16. A
17. B
18. B
19. A
20. D
21. B
22. C
23. B
24. D
25. C
26. A
27. B
28. 1250
29. D
30. C
31. C
32. A
33. C
34. B
35. A
36. D
37. B
38. A
39. B
40. D
41. A
42. A
43. B
44. B
45. C
46. B
47. 1
48. A
49. A
50. A

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