NORTHWEST TERRITORIES FOUNDATIONS OF MATHEMATICS AND PRE-CALCULUS 10 (MFMP-10) · 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 **The value of $\sqrt{144}$ is ____.**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **When expanded and simplified, (x + 5)(x + 3) is equal to**

A $x^2 + 8x + 8$

B $x^2 + 3x + 15$

C $x^2 + 8x + 15$

D $x^2 + 15x + 8$

Understand It with Pulse | Flag a mistake

3 **The range of the relation {(1, -2), (3, 0), (3, 5), (6, -2)} is**

A {1, 3, 6}

B {-2, 0, 5}

C {-2, 0, 3, 5}

D {0, 5, 6}

Understand It with Pulse | Flag a mistake

4 **Solve the system y = 2x - 1, 3x + y = 14. The solution is**

A (3, 5)

B (5, 3)

C (2, 3)

D (3, 7)

Understand It with Pulse | Flag a mistake

5 **The prime factorization of 72 is**

- **A** $2^2 \cdot 3^3$
- **B** $2^3 \cdot 3^2$
- **C** $2^4 \cdot 3$
- **D** $2 \cdot 3^4$

Understand It with Pulse | Flag a mistake

6 **When factored completely, $x^2 + 7x + 12$ is equal to**

- **A** $(x - 3)(x - 4)$
- **B** $(x + 3)(x + 4)$
- **C** $(x + 2)(x + 6)$
- **D** $(x + 12)(x + 1)$

Understand It with Pulse | Flag a mistake

7 **The slope of the line through (2, 3) and (6, 11) is**

- **A** 2
- **B** $\frac{1}{2}$
- **C** 4
- **D** -2

Understand It with Pulse | Flag a mistake

8 **The sum of two numbers is 91 and their difference is 17. The larger number is ____.**

ANSWER _____

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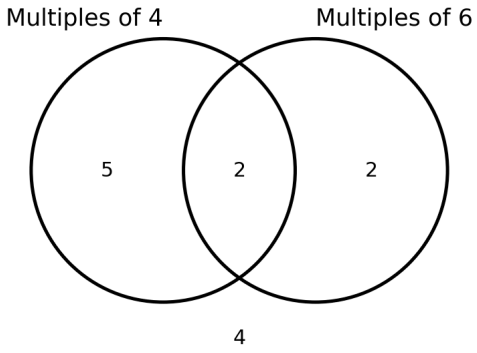
9 **The diagram shows how many numbers are multiples of 4 and multiples of 6. The total number of values that are multiples of 4 or of 6 is**



A 5

B 9

C 7

D 11

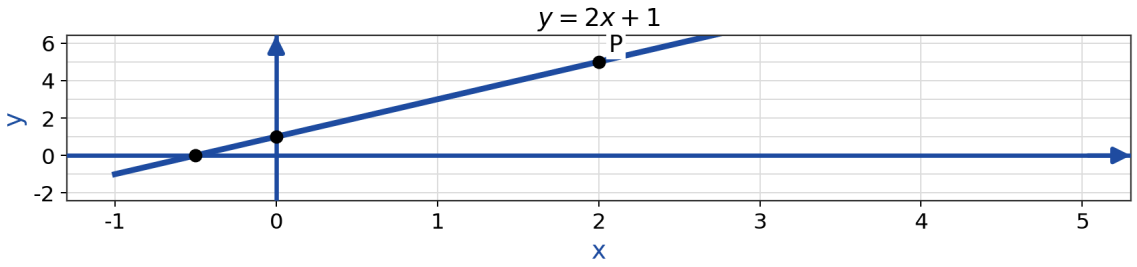
Understand It with Pulse | Flag a mistake

10 **When factored completely, $4x^2 - 25$ is equal to**

- **A** $(2x + 5)^2$
- **B** $(2x - 5)^2$
- **C** $(2x + 5)(2x - 5)$
- **D** $(4x - 5)(x + 5)$

Understand It with Pulse | Flag a mistake

11 **The graph shows the line y = 2x + 1. The value of y when x = 2 is**



- **A** 3
- **B** 4
- **C** 5
- **D** 6

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12 **In the triangle, AB = 4, AC = 3, and BC = 5, with a right angle at A. The value of sin B is**

A $\frac{3}{4}$

B $\frac{4}{5}$

C $\frac{3}{5}$

D $\frac{4}{3}$

Understand It with Pulse | Flag a mistake

13 **The prime factorization of 360 is $2^3 \cdot 3^2 \cdot 5$. The number of prime factors of 360, counting repeats, is ____.**

ANSWER

Understand It with Pulse | Flag a mistake

14 **When factored completely, $6x^2 + 9x$ is equal to**

- A $3(2x^2 + 3x)$
- B $x(6x + 9)$
- C $3x(2x + 9)$
- D $3x(2x + 3)$

Understand It with Pulse | Flag a mistake

15 **When written in general form, $y = 2x - 6$ becomes**

- A $2x - y - 6 = 0$
- B $2x + y - 6 = 0$
- C $x - 2y - 6 = 0$
- D $2x - y + 6 = 0$

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16 **In a right triangle, an acute angle has tangent 1. The angle, in degrees, is**

- A 30
- B 60
- C 45
- D 90

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17 **Two ribbons are 36 cm and 48 cm long. They are cut into equal pieces as long as possible, with no ribbon left over. The length of each piece, in centimetres, is ____.**

ANSWER _____

Understand It with Pulse | Flag a mistake

18 **When factored completely, $5x^3 - 20x$ is equal to**

A $5x(x - 2)^2$

B $x(5x^2 - 20)$

C $5x(x^2 - 4)$

D $5x(x - 2)(x + 2)$

Understand It with Pulse | Flag a mistake

19 **The x-intercept of the line $y = 3x - 9$ is**

A 3

B -9

C -3

D 9

Understand It with Pulse | Flag a mistake

20 **In a right triangle, the tangent of an acute angle is the ratio of**

- **A** The opposite side to the adjacent side
- **B** The adjacent side to the opposite side
- **C** The opposite side to the hypotenuse
- **D** The hypotenuse to the adjacent side

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21 **When simplified, $(2x^3)^2$ is equal to**

- **A** $2x^5$
- **B** $4x^6$
- **C** $4x^5$
- **D** $2x^6$

Understand It with Pulse | Flag a mistake

22 **When simplified, $(4x^2 - 9) - (x^2 + 2x - 5)$ is equal to**

A $3x^2 - 2x - 14$

B $3x^2 + 2x - 4$

C $5x^2 - 2x - 4$

D $3x^2 - 2x - 4$

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23 **A line has slope $\frac{2}{5}$. A line perpendicular to it has slope**

A $\frac{5}{2}$

B $-\frac{5}{2}$

C $\frac{2}{5}$

D $-\frac{2}{5}$

Understand It with Pulse | Flag a mistake

24 **The length of 36 inches, in feet, is ____.**

ANSWER _____

Understand It with Pulse | Flag a mistake

25 **The greatest common factor of 54 and 90 is**

A 9

B 18

C 27

D 6

Understand It with Pulse | Flag a mistake

26 When expanded and simplified, $(x + 4)(x + 4) - x^2$ is equal to

A $16x + 8$

B $2x^2 + 8x + 16$

C $8x + 16$

D $8x - 16$

Understand It with Pulse | Flag a mistake

27 The cost of a 9 kilometre taxi trip at 2 dollars per kilometre plus a 4 dollar flag drop, in dollars, is ____.

ANSWER _____

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28 The surface area of a rectangular prism 5 cm long, 3 cm wide, and 2 cm high, in cm^2, is ____.

ANSWER _____

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29 **The value of $16^{3/4}$ is**

A 12

B 64

C 4

D 8

Understand It with Pulse | Flag a mistake

30 **The parabola $y = x^2 - 5x + 6$ crosses the x-axis at 2 and 3. The factored form of $x^2 - 5x + 6$ is**

A $(x + 2)(x + 3)$

B $(x - 1)(x - 6)$

C $(x + 2)(x - 3)$

D $(x - 2)(x - 3)$

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31 **The domain of the relation {(-1, 6), (0, 2), (3, 6), (7, -4)} is**

A {-4, 2, 6}

B {-1, 0, 3, 7}

C {-1, 2, 3, 6}

D {0, 2, 6}

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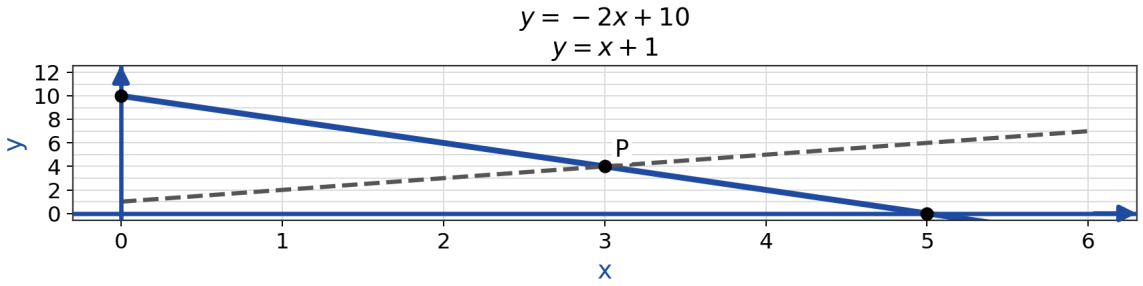
32 **The graph shows the lines y = -2x + 10 and y = x + 1. The solution of the system formed by the two lines is**



A (3, -4)

B (-3, 4)

C (4, 3)

D (3, 4)

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33 **The value of $\sqrt{225}$ is ____.**

ANSWER

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34 When expanded and simplified, $(x - 4)(x - 5)$ is equal to

- A $x^2 - 9x + 20$
- B $x^2 + 9x + 20$
- C $x^2 - 9x - 20$
- D $x^2 - 20x + 9$

Understand It with Pulse | Flag a mistake

35 The slope of the line through (1, -2) and (5, 10) is

- A 3
- B $\frac{1}{3}$
- C -3
- D 12

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36 **A shop sells notebooks for 5 dollars and folders for 3 dollars. On one day, 28 items were sold for a total of 116 dollars. The number of notebooks sold was ____.**

ANSWER _____

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37 **The value of 4^{-2} is**

A -16

B $\frac{1}{16}$

C 16

D $-\frac{1}{16}$

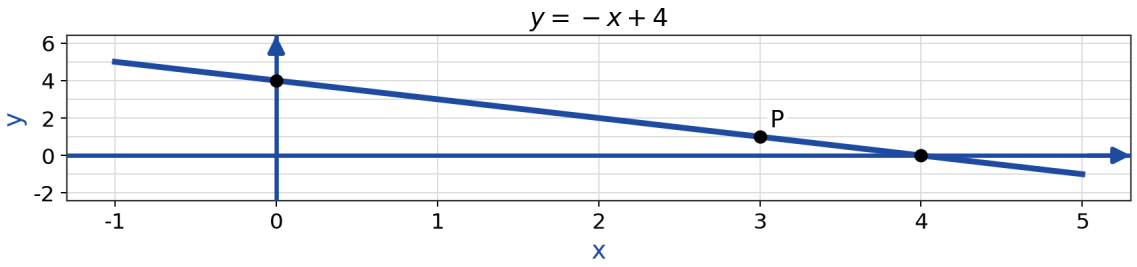
Understand It with Pulse | Flag a mistake

38 **When factored completely, $9x^2 - 16$ is equal to**

- **A** $(3x + 4)(3x - 4)$
- **B** $(9x - 4)(x + 4)$
- **C** $(3x + 4)^2$
- **D** $(3x - 4)^2$

Understand It with Pulse | Flag a mistake

39 **The graph shows the line $y = -x + 4$. The value of y when x = 3 is**



- **A** 1
- **B** 7
- **C** -1
- **D** 4

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40 A ladder 13 metres long leans against a wall, with its foot 5 metres from the wall. The height reached on the wall, in metres, is ____.

ANSWER _____

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41 When written as an entire radical, $3\sqrt{5}$ is equal to

A $\sqrt{15}$

B $\sqrt{75}$

C $\sqrt{45}$

D $\sqrt{30}$

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42 **When factored completely, $2x^2 - 5x - 3$ is equal to**

- **A** $(2x - 1)(x + 3)$
- **B** $(x - 1)(2x - 3)$
- **C** $(2x + 3)(x - 1)$
- **D** $(2x + 1)(x - 3)$

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43 **The slope of the line $2x - 4y = 8$ is**

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

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44 The volume of 2.5 litres, in millilitres, is ____.

ANSWER _____

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45 Which of the following numbers is irrational?

A $\sqrt{16}$

B 0.5

C $\frac{3}{4}$

D $\sqrt{7}$

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46 **The parabola $y = x^2 - 4x + 3$ crosses the x-axis at 1 and 3. The factored form of $x^2 - 4x + 3$ is**

- **A** $(x - 1)(x - 3)$
- **B** $(x + 1)(x + 3)$
- **C** $(x - 1)(x + 3)$
- **D** $(x + 1)(x - 3)$

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47 **If $h(x) = 6x - 5$ and $h(x) = 25$, then the value of x is ____.**

ANSWER _____

Understand It with Pulse | Flag a mistake

48 **In a right triangle, the sine of an acute angle is the ratio of**

- **A** The adjacent side to the hypotenuse
- **B** The opposite side to the hypotenuse
- **C** The opposite side to the adjacent side
- **D** The hypotenuse to the opposite side

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49 **When written as a single power, $\frac{9^8}{9^3}$ is equal to**

- **A** 9^{11}
- **B** 9^{24}
- **C** 9^5
- **D** 9^2

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50 **The constant term in the expansion of (x + 6)(x - 4) is ____.**

ANSWER _____

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ANSWER KEY

1.	12	**18.**	D	**35.**	A
2.	C	**19.**	A	**36.**	16
3.	B	**20.**	A	**37.**	B
4.	A	**21.**	B	**38.**	A
5.	B	**22.**	D	**39.**	A
6.	B	**23.**	B	**40.**	12
7.	A	**24.**	3	**41.**	C
8.	54	**25.**	B	**42.**	D
9.	B	**26.**	C	**43.**	C
10.	C	**27.**	22	**44.**	2500
11.	C	**28.**	62	**45.**	D
12.	C	**29.**	D	**46.**	A
13.	6	**30.**	D	**47.**	5
14.	D	**31.**	B	**48.**	B
15.	A	**32.**	D	**49.**	C
16.	C	**33.**	15	**50.**	-24
17.	12	**34.**	A		

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