NORTHWEST TERRITORIES FOUNDATIONS OF MATHEMATICS AND PRE-CALCULUS 10 (MFMP-10) · UNIT A · 25 QUESTIONS

Number, Powers and Roots — 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 2^{-3} is**

- **A** -8
- **B** $-\frac{1}{8}$
- **C** $\frac{1}{8}$
- **D** 8

Understand It with Pulse | Flag a mistake

2 **The value of $\sqrt{144}$ is ____.**

ANSWER _____

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3 **The greatest common factor of 48 and 180 is**

A 6

B 24

C 12

D 36

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4 **The least common multiple of 12 and 18 is**

A 36

B 54

C 72

D 24

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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** $2 \cdot 3^4$

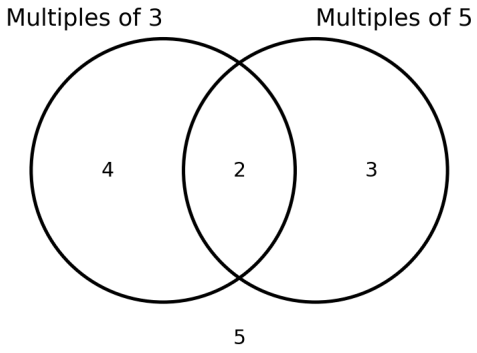
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6 If $3^x = 81$, then the value of x is ____.

ANSWER _____

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7 **The diagram shows how many numbers are multiples of 3 and multiples of 5. The number of values that are multiples of 3 but not of 5 is**



A 4

B 2

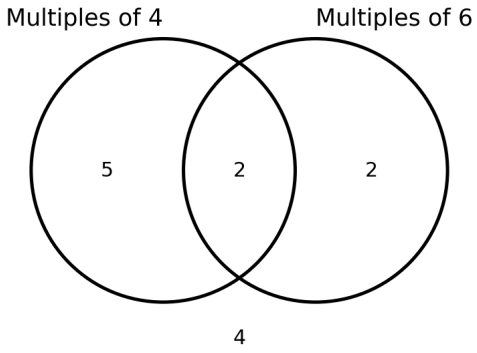
C 3

D 6

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8 **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

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9 For $y = 2^x$, the value of y when x = 3 is

- **A** 6
- **B** 9
- **C** 8
- **D** 5

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10 The numbers $\sqrt{2}$, 1.5, $\sqrt{3}$, and 2, written in increasing order, are

- **A** $\sqrt{3}, \sqrt{2}, 1.5, 2$
- **B** $\sqrt{2}, 1.5, \sqrt{3}, 2$
- **C** $1.5, \sqrt{2}, 2, \sqrt{3}$
- **D** $\sqrt{2}, \sqrt{3}, 1.5, 2$

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

ANSWER _____

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12 The value of $\left(\frac{3}{4}\right)^{-1}$ is

A $\frac{4}{3}$

B $-\frac{3}{4}$

C $\frac{3}{4}$

D $-\frac{4}{3}$

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13 **The value of $\sqrt{90}$ lies between**

A 8 and 9

B 9 and 10

C 10 and 11

D 7 and 8

Understand It with Pulse | Flag a mistake

14 **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 _____

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15 When simplified and written with positive exponents, $\frac{10x^3y^{-1}}{2x^{-2}y^2}$ is equal to

A $\frac{5x}{y^3}$

B $\frac{5x^5}{y^3}$

C $\frac{5x^5}{y}$

D $5x^5y^3$

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16 When simplified, $\frac{a^2b^3}{ab}$ is equal to

A ab^2

B a^2b^2

C ab^3

D a^3b^2

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

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

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18 **When written as a mixed radical in simplest form, $\sqrt{50}$ is equal to**

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

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19 The value of $27^{2/3}$ is ____.

ANSWER _____

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20 The value of $\sqrt[3]{216}$ is ____.

ANSWER _____

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21 The greatest common factor of 54 and 90 is

A 9

B 18

C 27

D 6

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22 The least common multiple of 15 and 20 is

- A 60
- B 35
- C 300
- D 45

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23 The prime factorization of 126 is

- A $2 \cdot 3^2 \cdot 7$
- B $2^2 \cdot 3 \cdot 7$
- C $2 \cdot 3 \cdot 7^2$
- D $6 \cdot 21$

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

A 12

B 64

C 4

D 8

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25 The value of $\sqrt[3]{-125}$ is ____.

ANSWER _____

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ANSWER KEY

1. C
2. 12
3. C
4. A
5. B
6. 4
7. A
8. B
9. C
10. B
11. 6
12. A
13. B
14. 12
15. B
16. A
17. B
18. B
19. 9
20. 6
21. B
22. A
23. A
24. D
25. -5

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