NEWFOUNDLAND AND LABRADOR MATHEMATICS 3201 · UNIT B · 25 QUESTIONS

Logical Reasoning — 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 next term in the sequence 2, 6, 12, 20 is**

ANSWER _____

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2 **A counterexample to the statement All prime numbers are odd is**



A 2

B 3

C 7

D 11

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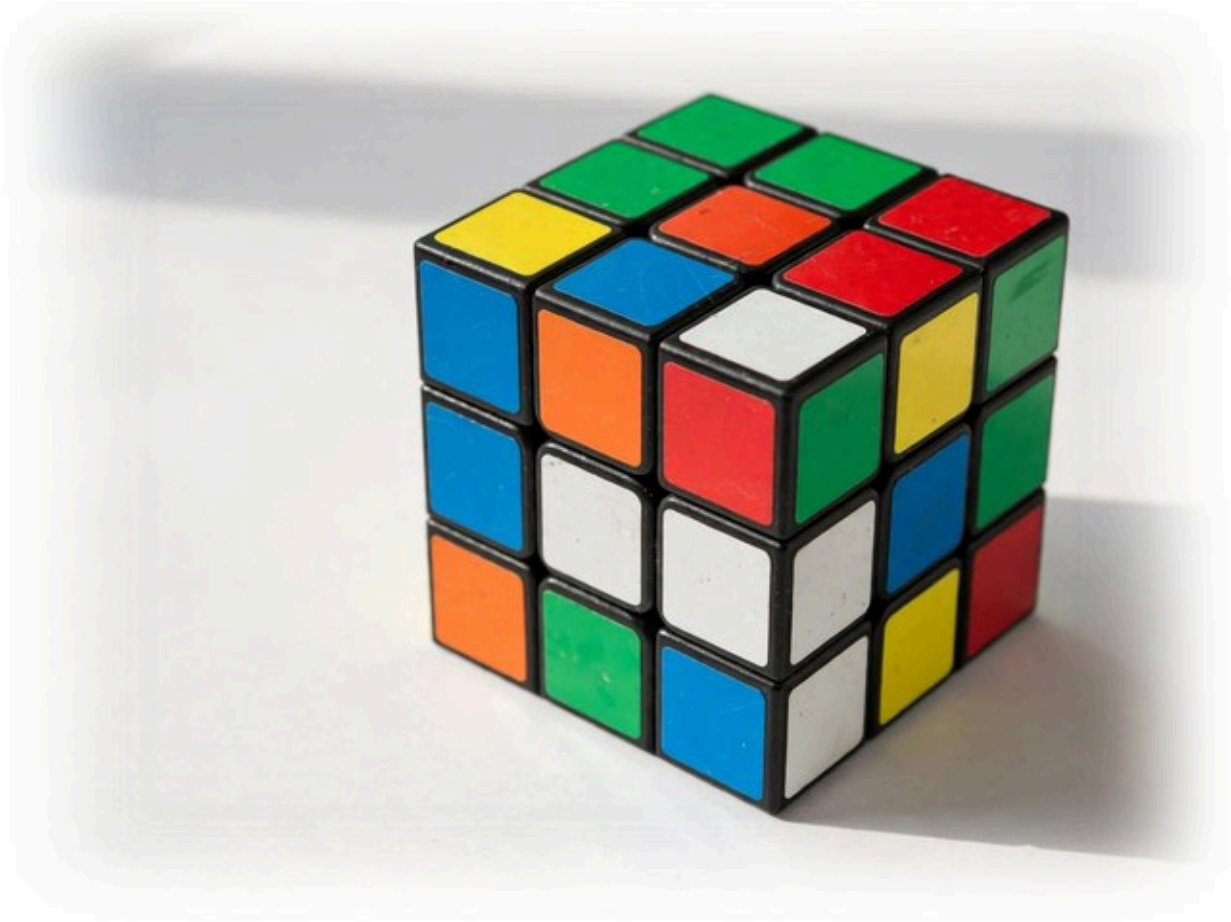
3 **A counterexample to the statement Every square has a side length greater than 5 is**



A 3

B 7

C a square of side length 3

D 11

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4 **A pattern adds 7 each time, starting at 3 . The fourth term is**

ANSWER _____

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5 **A pattern doubles each time, starting at 5 . The fifth term is**

ANSWER _____

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6 **A pattern multiplies by 3 each time, starting at 2 . The fourth term is**

ANSWER _____

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7 **A statement that is always true, such as A number is either even or odd , is a**



A contradiction

B counterexample

C conjecture

D tautology

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8 **An argument is valid when**

A the conclusion follows from the premises

B the premises are true

C the conclusion is true

D an example supports it

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9 **If all cats are mammals and Milo is a cat, then Milo is a**



A bird

B fish

C mammal

D reptile

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10 **If P is false and Q is false, then P or Q is**

A true

B sometimes true

C undefined

D false

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11 **If P is false and Q is false, then the statement P Rightarrow Q is**

A false

B sometimes true

C true

D undefined

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12 **If P is false and Q is true, then P and Q together are**

A true

B false

C sometimes true

D undefined

Understand It with Pulse | Flag a mistake

13 **If P is false and Q is true, then the statement P Rightarrow Q is**

A false

B sometimes true

C true

D undefined

Understand It with Pulse | Flag a mistake

14 **If P is true and Q is false, then P and Q together are**

A false

B true

C sometimes true

D undefined

Understand It with Pulse | Flag a mistake

15 **If P is true and Q is false, then the statement P Rightarrow Q is**

A false

B true

C sometimes true

D undefined

Understand It with Pulse | Flag a mistake

16 **If P is true and Q is true, then the statement P Rightarrow Q is**

A false

B true

C sometimes true

D undefined

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17 **Reasoning from a general rule to a specific conclusion is**



A inductive reasoning

B deductive reasoning

C a counterexample

D a conjecture

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18 **Reasoning from specific examples to a general conclusion is**

A inductive reasoning

B deductive reasoning

C a counterexample

D a biconditional

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19 **The contrapositive of the statement If a number is prime and greater than 2, then it is odd is**

A If the grass is wet, then it rains

B If a number is not odd, then it is not prime OR not greater than 2

C If it does not rain, then the grass is not wet

D It rains or the grass is wet

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20 **The contrapositive of the statement If it rains, then the grass is wet is**



A If the grass is not wet, then it does not rain

B If the grass is wet, then it rains

C If it does not rain, then the grass is not wet

D It rains or the grass is wet

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21 **The converse of the statement If a figure is a square, then it has four sides is**

A If it does not rain, then the grass is not wet

B If the grass is not wet, then it does not rain

C If a figure has four sides, then it is a square

D It rains and the grass is wet

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22 **The converse of the statement If a number is even, then it is divisible by 2 is**

A If it does not rain, then the grass is not wet

B If a number is divisible by 2, then it is even

C If the grass is not wet, then it does not rain

D It rains and the grass is wet

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23 **The converse of the statement If it rains, then the grass is wet is**

- **A** If the grass is wet, then it rains
- **B** If it does not rain, then the grass is not wet
- **C** If the grass is not wet, then it does not rain
- **D** It rains and the grass is wet

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24 **The converse of the statement If x > 5, then x > 3 is**

- **A** If $x \leq 5$, then $x \leq 3$
- **B** If $x > 3$, then $x > 5$
- **C** If $x \leq 3$, then $x \leq 5$
- **D** $x > 5$ and $x > 3$

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25 **The next term in the sequence 1, 4, 9, 16 is**

ANSWER

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ANSWER KEY

1. 30
2. A
3. C
4. 24
5. 80
6. 54
7. D
8. A
9. C
10. D
11. C
12. B
13. C
14. A
15. A
16. B
17. B
18. A
19. B
20. A
21. C
22. B
23. A
24. B
25. 25

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