ONTARIO FUNCTIONS, GRADE 11, UNIVERSITY PREPARATION (MCR3U) · UNIT A · 25 QUESTIONS

Characteristics of Functions — 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 domain of the function $f(x) = \sqrt{x - 3}$ is

- A $x \geq -3$
- B $x \geq 3$
- C $x > 3$
- D $x \leq 3$

Understand It with Pulse | Flag a mistake

2 The domain of the function $f(x) = \sqrt{x - 5}$ is

- A $x \geq -5$
- B $x > 5$
- C $x \leq 5$
- D $x \geq 5$

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3 The domain of the function $f(x) = \sqrt{x - 2}$ is

- **A** $x \geq 2$
- **B** $x \geq -2$
- **C** $x > 2$
- **D** $x \leq 2$

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4 The domain of $f(x) = \sqrt{x - 3}$ is x greater than or equal to

ANSWER _____

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5 **For the function $f(x) = x^2 - 4$ the value of $f(2)$ is**

A 2

B -2

C 0

D 4

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6 **For the function $f(x) = x^2 - 6$ the value of $f(3)$ is**

A 5

B 3

C 1

D 7

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7 **For the function $f(x) = x^2 - 8$ the value of $f(4)$ is**

- A 8
- B 10
- C 6
- D 12

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8 **Evaluating $f(x) = x^2 - 4$ at $x = 3$ gives**

ANSWER _____

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9 The vertex of the parabola $y = (x - 2)^2 + 3$ is

- A (-2, 3)
- B (2, 3)
- C (2, -3)
- D (-2, -3)

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10 The vertex of the parabola $y = (x + 1)^2 + 4$ is

- A (1, 4)
- B (-1, -4)
- C (1, -4)
- D (-1, 4)

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11 The vertex of the parabola $y = (x - 3)^2 - 2$ is

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

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12 The vertex of the parabola $y = x^2 - 2x - 3$ is at $x =$

ANSWER _____

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13 **The inverse of the function f(x) = 2x + 5 is**

- **A** $f^{-1}(x) = x + 5/2$
- **B** $f^{-1}(x) = x - 5/2$
- **C** $f^{-1}(x) = 2x - 5$
- **D** $f^{-1}(x) = x/2 + 5$

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14 **The inverse of the function f(x) = 3x + 7 is**

- **A** $f^{-1}(x) = x - 7/3$
- **B** $f^{-1}(x) = x + 7/3$
- **C** $f^{-1}(x) = 3x - 7$
- **D** $f^{-1}(x) = x/3 + 7$

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15 **The inverse of the function f(x) = 4x + 3 is**

- **A** $f^{-1}(x) = x + 3/4$
- **B** $f^{-1}(x) = x - 3/4$
- **C** $f^{-1}(x) = 4x - 3$
- **D** $f^{-1}(x) = x/4 + 3$

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16 **The inverse of the function f(x) = 2x - 6 is f inverse of x =**

- **A** (x + 6)/2
- **B** (x - 6)/2
- **C** 2x + 6
- **D** x/2 - 6

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17 **The graph of y = 3 f(x) + 1 is the graph of y = f(x) stretched vertically by a factor of**

A 4

B 3

C 1

D 14

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18 **The graph of y = 2 f(x) + 4 is the graph of y = f(x) stretched vertically by a factor of**

A 3

B 4

C 8

D 2

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19 The graph of $y = 5\,f(x) + 2$ is the graph of $y = f(x)$ stretched vertically by a factor of

- **A** 5
- **B** 6
- **C** 2
- **D** 10

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20 Multiplying a function by 2 stretches its graph vertically by a factor of

ANSWER _____

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21 **The function f(x) = 1/x - 2 has a vertical asymptote at**

A 3

B 1

C -2

D 2

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22 **The function f(x) = 1/x - 3 has a vertical asymptote at**

A 3

B 4

C 2

D -3

Understand It with Pulse | Flag a mistake

23 The function f(x) = 1/x - 4 has a vertical asymptote at

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

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24 The function f(x) = 1/(x - 4) has a vertical asymptote at x =

ANSWER _____

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25 **The function f(x) = |x| reflected in the x axis and shifted up 2 units has equation**

A y = |x| + 2

B y = -|x| - 2

C y = |x| - 2

D y = -|x| + 2

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ANSWER KEY

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

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