MATHEMATICS 2200 · NEWFOUNDLAND AND LABRADOR

Mathematics 2200

Practice Test

Unit B: Quadratic Functions

25 Questions

Original practice test based on the Newfoundland and Labrador curriculum. Work through each question, then check your answers at the end.

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.

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Question 1

The vertex of the parabola $y = (x - 3)^2 + -1$ is

A) $(3, -1)$

B) $(-3, -1)$

C) $(3, 1)$

D) $(-3, 1)$

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Question 2

The axis of symmetry of $y = x^2 + -4x + 3$ is

A) $x = 2$

B) $x = 4$

C) $x = -2$

D) $x = 0$

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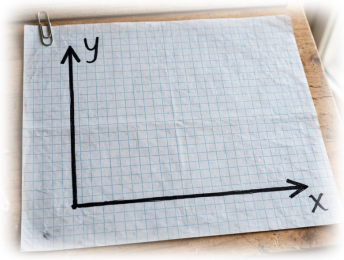

Question 3

For $y = 2x^2 + 5x + 2$ the number of real x intercepts is

A) 1 real root

B) no real roots

C) 2 distinct real roots

D) infinitely many x intercepts

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Question 4

The larger root of $x^2 - 8x + 7 = 0$ is

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Question 5

The x coordinate of the vertex of $y = x^2 + 4x$ is

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Question 6

Review the key idea. A parabola that opens downward has a leading coefficient that is

A) positive

B) negative

C) zero

D) equal to 1

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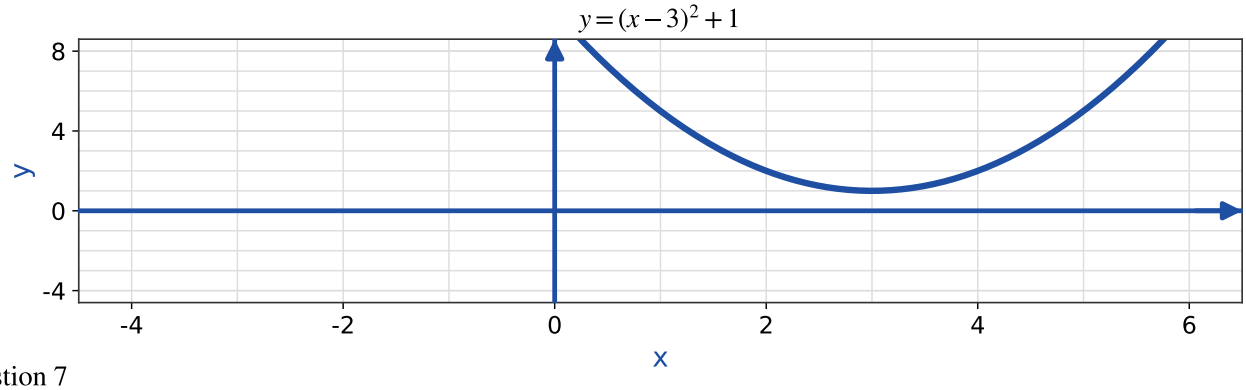

Question 7

The graph shown is a parabola with vertex (3, 1). Its equation is

A) $y = (x + 3)^2 + 1$

B) $y = (x - 3)^2 - 1$

C) $y = (x - 3)^2 + 1$

D) $y = -(x - 3)^2 + 1$

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Question 8

The y intercept of $y = 2x^2 - 3x + 2$ is

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Question 9

The maximum value of $y = -x^2 + 4x + 1$ is

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Question 10

Use what the term means . The x intercepts of $y = (x \text{ minus } 2)(x \text{ plus } 5)$ are

A) negative 2 and 5

B) 2 and negative 5

C) 2 and 5

D) negative 2 and negative 5

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Question 11

The range of $y = (x - -3)^2 + 2$ is

A) $y \leq 2$

B) $y \geq -3$

C) $y \geq 2$

D) $y \leq -3$

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Question 12

For $x^2 + 11x + 30 = 0$ the discriminant is

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Question 13

Apply the rule . Compared with $y = x^2$, $y = 3x^2$ is

A) narrower

B) wider

C) shifted left by 3

D) shifted down by 3

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Question 14

A ball *has* height $h = -5t^2 + 20t$ metres after t seconds . *At* $t = 2$ seconds , *its* height *in* metres *is*

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Question 15

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

A) $(1, -2)$

B) $(-1, 2)$

C) $(-1, -2)$

D) $(1, 2)$

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Question 16

The axis of symmetry of $y = x^2 + 6x + 3$ is

A) $x = -3$

B) $x = -1$

C) $x = 3$

D) $x = -5$

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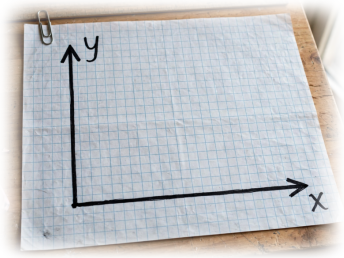

Question 17

For $y = 1x^2 + 4x + 4$ the number of real x intercepts is

A) 1 real root

B) 2 distinct real roots

C) no real roots

D) infinitely many x intercepts

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Question 18

The larger root of $x^2 - 7x + 12 = 0$ is

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Question 19

The x coordinate of the vertex of $y = x^2 + 10x$ is

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Question 20

Review the concept. A parabola that opens downward has a leading coefficient that is

A) positive

B) zero

C) equal to 1

D) negative

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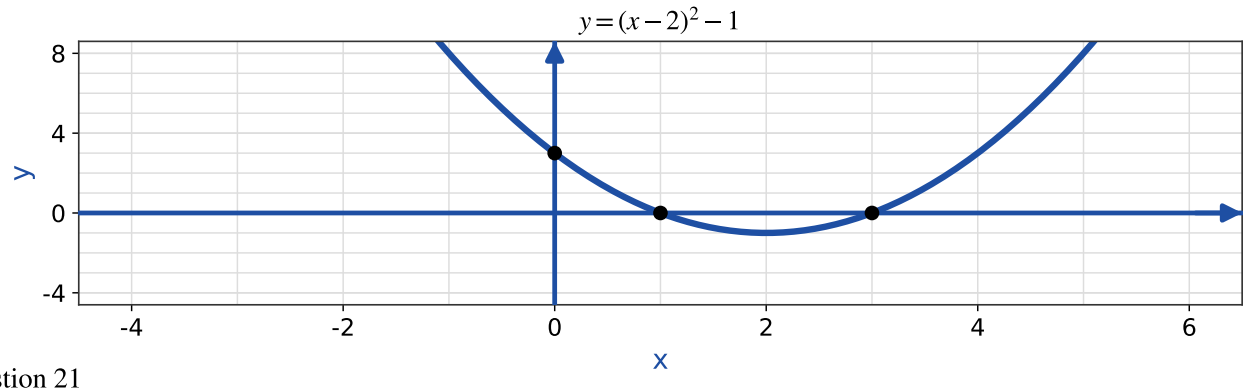

Question 21

The graph shown is a parabola with vertex $(2, -1)$. Its equation is

A) $y = (x - 2)^2 + -1$

B) $y = (x + 2)^2 + -1$

C) $y = (x - 2)^2 - -1$

D) $y = -(x - 2)^2 + -1$

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Question 22

The y intercept of $y = 2x^2 - 3x + -3$ is

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Question 23

The maximum value of $y = -x^2 + 2x + 5$ is

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Question 24

Consider the principle in general . The x intercepts of $y =$ (x minus 2)(x plus 5) are

A) negative 2 and 5

B) 2 and 5

C) negative 2 and negative 5

D) 2 and negative 5

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Question 25

The range of $y = (x - 1)^2 + -4$ is

A) $y \geq -4$

B) $y \leq -4$

C) $y \geq 1$

D) $y \leq 1$

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ANSWER KEY

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

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