MASSACHUSETTS ALGEBRA 2 · MASSACHUSETTS

Massachusetts Algebra 2
Practice Test

Unit 1: Functions and Graphs

10 Questions

Original practice test based on the Massachusetts 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

Let $f(x) = x + 1$ for $x < 2$ and $f(x) = 2x - 3$ for $x \geq 2$. The value of $f(2)$ is

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Question 2

The inverse of $f(x) = 5x - 10$ is

A) $f^{-1}(x) = \frac{x+10}{5}$

B) $f^{-1}(x) = 5x + 10$

C) $f^{-1}(x) = \frac{x}{5} - 10$

D) $f^{-1}(x) = \frac{x-10}{5}$

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Question 3

The point $(6, 3)$ lies on the graph of $y = f(x)$. The image of this point on the graph of $y = f(2x)$ is

A) $(6, 6)$

B) $(3, 6)$

C) $(12, 3)$

D) $(3, 3)$

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Question 4

The average rate of change of $f(x) = 3x + 2$ on the interval $0 \leq x \leq 5$ is

A) 17

B) 2

C) 3

D) 5

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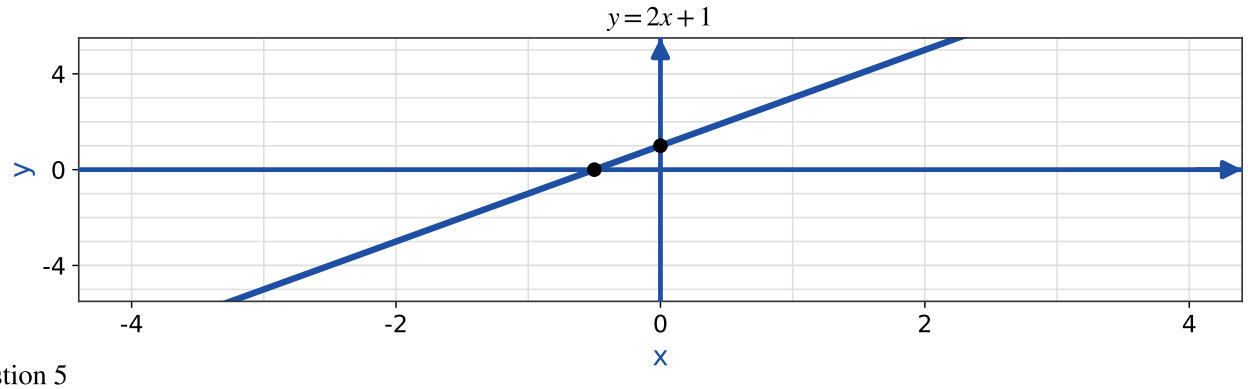

Question 5

The graph below shows $y = 2x + 1$. The y −intercept of the graph is

A) 1

B) 2

C) -1

D) 0

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Question 6

The function $f(x) = x^2$ is

A) even

B) neither even nor odd

C) both even and odd

D) odd

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Question 7

The vertex of $y = |x + 1| - 2$ is

A) $(-1, -2)$

B) $(1, 2)$

C) $(1, -2)$

D) $(-1, 2)$

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Question 8

The domain of $f(x) = \sqrt{4 - x}$ is

A) $x < 4$

B) $x \geq 4$

C) $x \leq 4$

D) $x > 4$

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Question 9

The larger solution of $|2x - 1| = 5$ is

A) 2

B) -2

C) 3

D) -3

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Question 10

If $f(x) = x^2 - 2x$, then an expression for $f(a + 1)$ is

A) $a^2 + 1$

B) $a^2 - 2a - 1$

C) $a^2 + 2a + 1$

D) $a^2 - 1$

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ANSWER KEY

1. 1
2. A
3. D
4. C
5. A
6. A
7. A
8. C
9. C
10. D

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