ALBERTA MATH 20-1 · UNIT 6 · 10 QUESTIONS

Absolute Value and Reciprocal 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 solutions to the equation 2|x - 3| + 4 = 18 are**

- **A** x = 10 only
- **B** x = -10 and x = 4
- **C** x = -4 and x = 10
- **D** x = -4 only

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2 The range of the function $y = 3|x + 2| - 4$ is

- **A** $y \geq -4$
- **B** $y \leq -4$
- **C** $y \geq 4$
- **D** $y \geq -2$

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3 For $f(x) = x + 3$, the invariant points of the graph of $y = \frac{1}{f(x)}$ occur when

- **A** $x = 2$ and $x = 4$
- **B** $x = -3$ only
- **C** $x = -2$ only
- **D** $x = -2$ and $x = -4$

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4 **The product of the x-intercepts of the graph of $y = |x - 3| - 5$ is ____.**

ANSWER _____

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5 **The solutions to the equation $|x + 2| = 2x - 1$ are**

A $x = -\frac{1}{3}$ and $x = 3$

B $x = 3$ only

C $x = -\frac{1}{3}$ only

D no solution

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6 The vertical asymptotes of the graph of $y = \frac{1}{x^2 + 2x - 8}$ are

- **A** x = 2 and x = -4
- **B** x = -2 and x = 4
- **C** x = 2 only
- **D** x = -8 and x = 2

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7 The product of the solutions to the equation |3x + 1| = |x - 5| is ____.

ANSWER _____

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8 **Which of the following statements about the graph shown is true?**

- **A** The graph has a vertical asymptote at $x = 2$
- **B** The graph passes through the point $(0, \frac{1}{2})$
- **C** The graph has an x -intercept at $(-2, 0)$
- **D** The graph has a horizontal asymptote at $y = 1$

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9 **An absolute value function has vertex (-3, 4), opens downward, and passes through the point (-2, 2). Its equation is**

- **A** $y = 2|x + 3| + 4$
- **B** $y = -2|x - 3| + 4$
- **C** $y = -2|x + 3| + 4$
- **D** $y = -\frac{1}{2}|x + 3| + 4$

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10 For the function $y = \frac{1}{x^2 + 4x - 12}$, the sum of the non-permissible values of x is ____.

ANSWER

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ANSWER KEY

1.	C	**5.**	B	**9.**	C
2.	A	**6.**	A	**10.**	-4
3.	D	**7.**	-3		
4.	-16	**8.**	B		

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