Northern Michigan University (Marquette Co, MI)

MA111-04-26W: College Algebra (Andrew A. Poe) Name: _____
Quiz 8 Monday 6 April 2026 2:00 P.M. EDT

Time: 15 minutes

1. Solve the following equation for x:

$$\log_7(x+2) = 2$$

$7^{\log_7(x+2)} = 7^2$

$x+2 = 49$

$x = 47$

2. Using the Rational Root Theorem, find all three solutions to the following equation. (There are no square roots or imaginary numbers or anything like that in there.)

$$2x^3 + x^2 - 2x - 1 = 0$$

num: ± 1
den: ± 1 ± 2

Try 1.

1	2	1	-2	-1
		2	3	1
	2	3	1	0

works

1 is one solution

other two are $-1, -\frac{1}{2}$

$2x^2+3x+1=0$

$1,2 \Rightarrow \boxed{-\frac{1}{2}, -1}$

$x \to 2$
$t \to 3$

3. Solve the following inequality for x and put your answer in interval notation.

$$7 - 3x \leq 5$$

$7-3x \leq 5$

$-3x \leq -2$

$x \geq \frac{2}{3}$

$\left[\frac{2}{3}, \infty\right)$

4. Solve the following inequality for x and put your answer in interval notation.

$x^2 < 6x + 7$

$x^2 - 6x - 7 < 0$

Solve as equation:

$x^2 - 6x - 7 = 0$

$x \to 7$
$t \to -6$

$-7, 1 \to \boxed{7, -1}$

F T F

$\boxed{x \in (-1, 7)}$

0:

$0^2 < 6(0)+7$

$0 < 7$

True