

Name: \_\_\_\_\_

**College Algebra: Review (Test 1)**

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Solve the following equations.

1.  $\frac{x}{x+2} + 5 = \frac{4}{x+2}$

2.  $|3x - 4| + 9 = 20$

3.  $-3 - |2x - 9| = |2x - 9| - 3$

4.  $|-7x + 19| + 11 = 10$

5.  $x^2 - 5x + 6 = 0$

6.  $x^2 + 4x - 45 = 0$

7.  $2x^2 - 9x + 7 = 0$

8.  $3x^2 - 13x + 14 = 0$

9.  $x^2 - 8x + 4 = 0$

10.  $x^3 - 17x^2 + 72x = 0$

11.  $2x^4 - 3x^2 - 9 = 0$

12.  $|x^2 - 7x + 14| = 2$

Solve the following inequalities and graph your solutions. Give your answers in interval notation.

1.  $|-2x - 8| + 7 \leq 27$

2.  $2|-5x - 3| + 15 \geq 17$