

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

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# Worksheet 1: Prerequisites: Extra Practice

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This worksheet covers some of the basic algebra skills that you will need for Precalculus. If you struggle with this worksheet, you should seek additional support now and throughout the semester in order to succeed in this course. This part does not need to be turned in. **Show all work that leads to each answer.**

1. Simplify the expression  $\frac{3 + 6x}{3}$ , or if it cannot be simplified any further, write "simplified."

2. Simplify the expression  $\frac{3 + 6x}{1 + x}$ , or if it cannot be simplified any further, write "simplified."

3. Simplify the expression  $\frac{1 - x^2}{x - 1}$ , or if it cannot be simplified any further, write "simplified."

4. Perform the given operation and simplify the expression:  $\frac{x^2 + 5x + 7}{x^2 - 5x + 6} \cdot \frac{3x - 6}{3x^3 + 15x^2 + 21x}$ .

5. Solve the equation, then check your answer(s):  $3 + 2x = 2\left(\frac{3}{2} + x\right)$ .

6. Solve the equation, then check your answer(s):  $\frac{1}{x} = \frac{3}{x} + 1$ .

7. Solve the equation, then check your answer(s):  $\frac{2x - 1}{x + 2} = \frac{4}{5}$ .

8. Solve the equation, then check your answer(s):  $|4x + 1| = 3$ .

9. Solve the inequality, then graph the solution on a number line:  $1 - 2x \geq 0$ .