

NAME : \_\_\_\_\_

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## Simplifying Algebraic Fractions Worksheet

Represent each expression as a single fraction.

$$\textcircled{1} \frac{x^2 - 64}{x - 8} =$$

$$\textcircled{2} \frac{3x^2 + 3x}{9x^2 + 9x} =$$

$$\textcircled{3} \frac{6x^2 + 9x}{4x + 6} =$$

$$\textcircled{4} \frac{6y}{xy + y^2} =$$

$$\textcircled{5} \frac{a + b}{5a + 5b} =$$

$$\textcircled{6} \frac{(x - 3)(x + 4)}{2x - 6} =$$

$$\textcircled{7} \frac{4x}{7} - \frac{x - 1}{9} =$$

$$\textcircled{8} \frac{p^2 - 4}{p - 2} =$$

$$\textcircled{9} \frac{3a - ab}{3a - ab^2} =$$

$$\textcircled{10} \frac{x^2 + 3x}{x^2 - 9} =$$

$$\textcircled{11} \frac{1 + x}{1 - x^2} =$$

$$\textcircled{12} \frac{4x - 12}{x^2 - 3x} =$$

$$\textcircled{13} \frac{7x}{y(x + y)} =$$

$$\textcircled{14} \frac{1}{x(x^2 + 3)} =$$

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### Answers

$$\textcircled{1} \frac{x^2 - 64}{x - 8} = x + 8$$

$$\textcircled{2} \frac{3x^2 + 3x}{9x^2 + 9x} = \frac{1}{3}$$

$$\textcircled{3} \frac{6x^2 + 9x}{4x + 6} = \frac{3x}{2}$$

$$\textcircled{4} \frac{6y}{xy + y^2} = \frac{6}{x + y}$$

$$\textcircled{5} \frac{a + b}{5a + 5b} = \frac{1}{5}$$

$$\textcircled{6} \frac{(x - 3)(x + 4)}{2x - 6} = \frac{x + 4}{2}$$

$$\textcircled{7} \frac{4x}{7} - \frac{x - 1}{9} = \frac{29x + 7}{9}$$

$$\textcircled{8} \frac{p^2 - 4}{p - 2} = (p + 2)$$

$$\textcircled{9} \frac{3a - ab}{3a - ab^2} = \frac{3 - b}{3 - b^2}$$

$$\textcircled{10} \frac{x^2 + 3x}{x^2 - 9} = \frac{x}{x - 3}$$

$$\textcircled{11} \frac{1 + x}{1 - x^2} = \frac{1}{1 - x}$$

$$\textcircled{12} \frac{4x - 12}{x^2 - 3x} = \frac{4}{x}$$

$$\textcircled{13} \frac{7x}{y(x + y)} = \frac{7x}{yx + y^2}$$

$$\textcircled{14} \frac{1}{x(x^2 + 3)} = \frac{1}{x^3 + 3x}$$