

## Simplifying Rational Expressions

Simplify the following:

$$\textcircled{1} \quad \frac{6}{3} =$$

$$\textcircled{2} \quad \frac{3}{6} =$$

$$\textcircled{3} \quad \frac{3x}{6} =$$

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

$$\textcircled{5} \quad \frac{3x+3}{6} =$$

Hint: factorise the numerator

$$\textcircled{6} \quad \frac{6x+6}{3} =$$

$$\textcircled{7} \quad \frac{6x+3}{9} =$$

$$\textcircled{8} \quad \frac{x^2+2x}{4x} =$$

$$\textcircled{9} \quad \frac{5x^2-x}{10x-2} =$$

$$\textcircled{11} \quad \frac{xy+wy}{4x+4w} =$$

$$\textcircled{12} \quad \frac{x^2 + 3x + 2}{x + 1} =$$

$$\textcircled{13} \quad \frac{x^2 + 8x + 16}{x + 4} =$$

$$\textcircled{14} \quad \frac{x^2 + 7x + 12}{5x + 15} =$$

$$\textcircled{15} \quad \frac{x^2 - 25}{x^2 + 8x + 15} =$$

$$\textcircled{16} \quad \frac{x^2 + 4x + 3}{x^2 + 7x + 12} =$$

$$\textcircled{17} \quad \frac{3}{5} \times \frac{10}{9} =$$

$$\textcircled{18} \quad \frac{3x}{5(x+2)} \times \frac{10(x+2)}{9x} =$$

$$\textcircled{19} \quad \frac{x^2 - 25}{y} \times \frac{6y^2}{x+5} =$$

$$\textcircled{20} \quad \frac{x^2 - 49}{x^2 + 4x + 3} \div \frac{x+7}{x+1} =$$