

Name:

Date: Score:

Simplify the Rational Expressions

Multiply

① $\frac{6x - 12}{x^2 - 9x + 18} \cdot \frac{7x - 21}{5x - 10}$

② $\frac{x^2 - 16}{x^2} \cdot \frac{x^2 - 4x}{x^2 - x - 12}$

③ $\frac{5t^3}{4t - 8} \cdot \frac{6t - 12}{10t}$

④ $\frac{m^2 - n^2}{4m + 4n} \cdot \frac{m + n}{m - n}$

Divide

⑤ $\frac{u^5x}{y} \div \frac{ux^2}{y^4}$

⑥ $\frac{25y^2 - 4}{y^2 - 9} \div \frac{5y - 2}{y + 3}$

⑦ $\frac{r^3v}{t} \div \frac{rv^3}{t^3}$

⑧ $\frac{m^5n}{p} \div \frac{mn^3}{p^4}$

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Simplify the Rational Expressions

Answers

$$\textcircled{1} \frac{6x - 12}{x^2 - 9x + 18} \cdot \frac{7x - 21}{5x - 10}$$

$$\frac{42}{5(x - 6)}$$

$$\textcircled{2} \frac{x^2 - 16}{x^2} \cdot \frac{x^2 - 4x}{x^2 - x - 12}$$

$$\frac{(x + 4)(x - 4)}{x(x + 3)}$$

$$\textcircled{3} \frac{5t^3}{4t - 8} \cdot \frac{6t - 12}{10t}$$

$$\frac{3t^2}{4}$$

$$\textcircled{4} \frac{m^2 - n^2}{4m + 4n} \cdot \frac{m + n}{m - n}$$

$$\frac{m + n}{4}$$

$$\textcircled{5} \frac{u^5x}{y} \div \frac{ux^2}{y^4}$$

$$\frac{u^4y^3}{x}$$

$$\textcircled{6} \frac{25y^2 - 4}{y^2 - 9} \div \frac{5y - 2}{y + 3}$$

$$\frac{5y + 2}{y - 3}$$

$$\textcircled{7} \frac{r^3v}{t} \div \frac{rv^3}{t^3}$$

$$\frac{r^2t^2}{v^2}$$

$$\textcircled{8} \frac{m^5n}{p} \div \frac{mn^3}{p^4}$$

$$\frac{m^4p^3}{n^2}$$