

Name:

Date: Score:

Adding and Subtracting Rational Expressions: Unlike Denominators

Simplify each expression:

$$\boxed{1} \quad \frac{5y}{6} - \frac{2x}{5y^3}$$

$$\boxed{2} \quad \frac{7x}{x-6} + \frac{42}{6-x}$$

$$\boxed{3} \quad \frac{6r}{r+5} - \frac{4r}{r-1}$$

$$\boxed{4} \quad \frac{2x}{x+2} - \frac{6}{x+6}$$

$$\boxed{5} \quad \frac{4x}{x-4} - \frac{3x}{x-2}$$

$$\boxed{6} \quad \frac{4}{5x+7} + \frac{7}{6x}$$

$$\boxed{7} \quad \frac{2x}{16x^2 - 4x} + \frac{4}{2x-1}$$

$$\boxed{8} \quad 4 - \frac{p}{p-4}$$

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Answers

$$\begin{aligned} \boxed{1} \quad & \frac{5y}{6} - \frac{2x}{5y^3} \\ & = \frac{25y^4 - 12x}{30y^3} \end{aligned}$$

$$\begin{aligned} \boxed{2} \quad & \frac{7x}{x-6} + \frac{42}{6-x} \\ & = \frac{-7x^4 + 84x - 252}{-x^2 + 12x - 36} \end{aligned}$$

$$\begin{aligned} \boxed{3} \quad & \frac{6r}{r+5} - \frac{4r}{r-1} \\ & = \frac{2r(r-26)}{r^2 + 4r - 5} \end{aligned}$$

$$\begin{aligned} \boxed{4} \quad & \frac{2x}{x+2} - \frac{6}{x+6} \\ & = \frac{2(x^2 + 3x - 6)}{x^2 + 8x + 12} \end{aligned}$$

$$\begin{aligned} \boxed{5} \quad & \frac{4x}{x-4} - \frac{3x}{x-2} \\ & = \frac{x^2 + 4x}{x^2 - 6x + 8} \end{aligned}$$

$$\begin{aligned} \boxed{6} \quad & \frac{4}{5x+7} + \frac{7}{6x} \\ & = \frac{59x + 49}{6x(5x + 7)} \end{aligned}$$

$$\begin{aligned} \boxed{7} \quad & \frac{2x}{16x^2 - 4x} + \frac{4}{2x-1} \\ & = \frac{34x^2 - 9x}{2(8x^3 - 6x + x)} \end{aligned}$$

$$\begin{aligned} \boxed{8} \quad & 4 - \frac{p}{p-4} \\ & = \frac{3p - 16}{p-4} \end{aligned}$$