Add & Subtract Rational Expressions

1. Perform the indicated operations for each problem below.

a) $\dfrac{3}{a+2} + \dfrac{4}{a-5}$

b) $\dfrac{4r}{r+3} - \dfrac{5}{r}$

2. Write each sum or difference as a single rational expression.

a) $\dfrac{1}{x} - \dfrac{1}{x-1}$

b) $\dfrac{3x}{2y} - \dfrac{5x}{6y} + \dfrac{x}{3y}$

c) $\dfrac{1}{p-2} - \dfrac{1}{p+2}$

d) $\dfrac{1}{p-2} + \dfrac{1}{2-p}$

Add & Subtract Rational Expressions

1. Perform the indicated operations for each problem below.

a) $\dfrac{3}{a+2} + \dfrac{4}{a-5}$

$$\dfrac{3}{a+2} + \dfrac{4}{a-5}$$
$$= \dfrac{3a-15}{(a+2)(a-5)}$$
$$+ \dfrac{4a+8}{(a+2)(a-5)}$$
$$= \dfrac{7a-7}{(a+2)(a-5)}$$

b) $\dfrac{4r}{r+3} - \dfrac{5}{r}$

$$\dfrac{4r}{r+3} - \dfrac{5}{r}$$
$$= \dfrac{4r^2}{r(r+3)} - \dfrac{5r+15}{r(r+3)}$$
$$= \dfrac{4r^2-5r-15}{r(r+3)}$$

2. Write each sum or difference as a single rational expression.

a) $\dfrac{1}{x} - \dfrac{1}{x-1}$

$$-\dfrac{1}{x(x-1)}$$

b) $\dfrac{3x}{2y} - \dfrac{5x}{6y} + \dfrac{x}{3y}$

$$\dfrac{x}{y}$$

c) $\dfrac{1}{p-2} - \dfrac{1}{p+2}$

$$\dfrac{4}{(p-2)(p+2)}$$

d) $\dfrac{1}{p-2} + \dfrac{1}{2-p}$

$$0$$