

Add and Subtract Rational Expressions

Independent Practice

1. $\frac{9w^3}{2w^5} + \frac{3w^3}{2w^5} = \frac{12w^3}{2w^5} = \frac{6}{w^2}$

2. $\frac{3y^2-19y}{y^2-25} + \frac{y^2-y}{y^2-25}$

$\frac{y^2-20y}{(y+5)(y-5)} = \frac{4y(y-5)}{(y+5)(y-5)}$

$\frac{4y}{y+5}$

3. $\frac{6}{v+4} + \frac{2}{v-6} = \frac{6v-36}{(v+4)(v-6)}$

$\frac{(v-6)}{(v-6)} \frac{6}{v+4} = \frac{6v-36}{(v+4)(v-6)}$

$\frac{(v+4)}{(v+4)} \frac{2}{v-6} = \frac{2v+8}{(v+4)(v-6)}$

$\frac{6v-36+2v+8}{(v+4)(v-6)}$

$\frac{8v-28}{(v+4)(v-6)}$

4. $\frac{8a-18}{3a^2+14a+8} + \frac{7}{3a+2} = \frac{8a-18}{(a+4)(3a+2)} + \frac{7}{3a+2} = \frac{15a+10}{(a+4)(3a+2)}$

$\frac{8a-18}{(a+4)(3a+2)} = \frac{8a-18}{(a+4)(3a+2)}$

$\frac{(a+4)7}{(a+4)(3a+2)} = \frac{7a+28}{(a+4)(3a+2)}$

$\frac{15a+10}{(a+4)(3a+2)}$

$\frac{5(3a+2)}{(a+4)(3a+2)}$

$\frac{5}{a+4}$

5. $\frac{8k+9}{18} - \frac{(2k+1)}{18} = \frac{6k+8}{18}$

$\frac{2(3k+4)}{2 \cdot 9}$

$\frac{3k+4}{9}$

6. $\frac{x^2+5x}{x+7} - \frac{14}{x+7} = \frac{x^2+5x-14}{x+7}$

$\frac{(x+7)(x-2)}{(x+7)}$

$x-2$

7. $\frac{r}{r+6} - \frac{1}{r} = \frac{r^2-r-6}{r(r+6)}$

$\frac{r}{r+6} = \frac{r^2}{r(r+6)}$

$\frac{1}{r} = \frac{(r+6)}{r(r+6)}$

$\frac{(r-3)(r+2)}{r(r+6)}$

8. $\frac{p^2+2p-51}{p^2-6p-27} - \frac{4}{p+3} = \frac{p^2+2p-51-4p-12}{(p+3)(p-9)}$

$\frac{p^2+2p-51}{(p+3)(p-9)} = \frac{p^2+2p-51}{(p+3)(p-9)}$

$\frac{(p-9)4}{(p-9)(p+3)} = \frac{4p-36}{(p+3)(p-9)}$

$\frac{p^2-2p-15}{(p+3)(p-9)}$

$\frac{(p+3)(p-5)}{(p+3)(p-9)}$

$\frac{p-5}{p-9}$