Algebra 2 Name_____ ID: 1

Rationals - Add/Subtract

Date_____ Period____

Simplify each expression.

1) $\frac{2n}{9n+36} + \frac{6n+6}{9n+36}$

2) $\frac{x+4}{x^2-5x+4} + \frac{3x}{x^2-5x+4}$

3) $\frac{p+2}{9p-45} + \frac{5}{9p-45}$

4) $\frac{3n-6}{2n^2-11n+12} + \frac{6n+1}{2n^2-11n+12}$

5) $\frac{3}{x-3} - \frac{3x}{x-4}$

6) $\frac{2b}{5b-2} - \frac{2}{b+6}$

7) $\frac{k+4}{k+2} - \frac{6}{3k-1}$

8) $\frac{4b}{b-5} - \frac{6b}{b+2}$

9) $\frac{6}{3n+5} - \frac{4}{n+5}$

10) $\frac{x+4}{x-3} - \frac{4x}{5x+5}$

11) $\frac{2}{6m-24} - \frac{6m}{m+5}$

12) $\frac{6}{2x+5} - \frac{5x}{x+6}$

13) $\frac{2}{n+5} - \frac{2}{n-4}$

14) $\frac{4p}{2p} - \frac{3}{2p+6}$

15) $\frac{2k}{5k+4} - \frac{3k}{3k-3}$

16) $\frac{2}{3} - \frac{4x+4}{15x^2+15x}$

17) $\frac{r-6}{r-5} - \frac{4}{3r-2}$

18) $\frac{6}{m-2} - \frac{6m}{m+3}$

19) $\frac{6}{m+3} - \frac{3}{2m^2+2m}$

20) $\frac{4x}{x+4} - \frac{6}{3x+2}$

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Simplify each expression.

1) $\frac{2n}{9n+36} + \frac{6n+6}{9n+36}$

$\frac{8n+6}{9n+36}$

2) $\frac{x+4}{x^2-5x+4} + \frac{3x}{x^2-5x+4}$

$\frac{4x+4}{x^2-5x+4}$

3) $\frac{p+2}{9p-45} + \frac{5}{9p-45}$

$\frac{p+7}{9p-45}$

4) $\frac{3n-6}{2n^2-11n+12} + \frac{6n+1}{2n^2-11n+12}$

$\frac{9n-5}{2n^2-11n+12}$

5) $\frac{3}{x-3} - \frac{3x}{x-4}$

$\frac{-3x^2+12x-12}{(x-4)(x-3)}$

6) $\frac{2b}{5b-2} - \frac{2}{b+6}$

$\frac{2b^2+2b+4}{(5b-2)(b+6)}$

7) $\frac{k+4}{k+2} - \frac{6}{3k-1}$

$\frac{3k^2+5k-16}{(3k-1)(k+2)}$

8) $\frac{4b}{b-5} - \frac{6b}{b+2}$

$\frac{-2b^2+38b}{(b-5)(b+2)}$

9) $\frac{6}{3n+5} - \frac{4}{n+5}$

$\frac{-6n+10}{(n+5)(3n+5)}$

10) $\frac{x+4}{x-3} - \frac{4x}{5x+5}$

$\frac{x^2+37x+20}{5(x-3)(x+1)}$

11) $\frac{2}{6m-24} - \frac{6m}{m+5}$

$\frac{73m+5-18m^2}{3(m-4)(m+5)}$

12) $\frac{6}{2x+5} - \frac{5x}{x+6}$

$\frac{-19x+36-10x^2}{(x+6)(2x+5)}$

13) $\frac{2}{n+5} - \frac{2}{n-4}$

$-\frac{18}{(n-4)(n+5)}$

14) $\frac{4p}{2p} - \frac{3}{2p+6}$

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

15) $\frac{2k}{5k+4} - \frac{3k}{3k-3}$

$\frac{-3k^2-6k}{(k-1)(5k+4)}$

16) $\frac{2}{3} - \frac{4x+4}{15x^2+15x}$

$\frac{10x-4}{15x}$

17) $\frac{r-6}{r-5} - \frac{4}{3r-2}$

$\frac{3r^2-24r+32}{(r-5)(3r-2)}$

18) $\frac{6}{m-2} - \frac{6m}{m+3}$

$\frac{18m+18-6m^2}{(m-2)(m+3)}$

19) $\frac{6}{m+3} - \frac{3}{2m^2+2m}$

$\frac{12m^2+9m-9}{2m(m+3)(m+1)}$

20) $\frac{4x}{x+4} - \frac{6}{3x+2}$

$\frac{12x^2+2x-24}{(x+4)(3x+2)}$