Practice: Level 3

Kuta Software - Infinite Algebra 1

Adding + Subtracting Rational Expressions

Simplify each expression.

13) $\frac{7}{3n^2+24n} - \frac{7}{2n}$

14) $\frac{6}{v-2} - \frac{7}{2v+7}$

15) $\frac{6x}{3} + \frac{7}{15x+3}$

16) $\frac{5v}{v-3} + \frac{5}{v+6}$

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

18) $\frac{2}{x+3} - \frac{6x}{2x+1}$

$= \left(\frac{4}{4}\right) \cdot \frac{4x}{x^2+4x-5} - \frac{5}{4} \cdot \left(\frac{x^2+4x-5}{x^2+4x-5}\right) =$

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

$= \frac{16x - 5x^2 - 20x + 25}{(4)(x^2+4x-5)} =$

$= \frac{-5x^2 - 4x + 25}{(4)(x+5)(x-1)} =$

Practice: Level 4

Kuta Software - Infinite Algebra 1

Adding + Subtracting Rational Expressions

Simplify each expression.

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

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

$= \left(\frac{x+5}{x+5}\right) \cdot \frac{2x}{3x+3} - \frac{2}{x+5} \cdot \left(\frac{3x+3}{3x+3}\right) =$

$= \frac{2x(x+5) - 2(3x+3)}{(3x+3)(x+5)} =$

$= \frac{2x^2 + 10x - 6x - 6}{(3x+3)(x+5)} =$

$= \frac{2x^2 + 4x - 6}{(3x+3)(x+5)} =$

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

$= \frac{2(x+3)(x-1)}{3(x+1)(x+5)}$

21) $\frac{6}{x-2} + \frac{6}{x+1}$

22) $\frac{v-2}{3v^4 - 15v^3 - 18v^2} + 3v$

$\frac{v-2}{3v^4 - 15v^3 - 18v^2} + 3v =$

$= \frac{v - 2 + 3v(3v^4 - 15v^3 - 18v^2)}{3v^4 - 15v^3 - 18v^2} =$

$= \frac{v - 2 + 9v^5 - 45v^4 - 54v^3}{3v^4 - 15v^3 - 18v^2} =$

$= \frac{9v^5 - 45v^4 - 54v^3 + v - 2}{3v^4 - 15v^3 - 18v^2} =$

$= \frac{9v^5 - 45v^4 - 54v^3 + v - 2}{3v^2(v^2 - 5v - 6)} =$

$= \frac{9v^5 - 45v^4 - 54v^3 + v - 2}{3v^2(v-6)(v+1)} =$