

• Warm Up
in your notes

Simplify
(in this case)
means to
add

$$\frac{2a}{a+3} + \frac{1}{a}$$

and pick up the List of Ch.3 Test
Items

$$\frac{2a}{a+3} + \frac{1}{a}$$

d

February 12, 2020

$\frac{2a}{a+3} + \frac{1}{a} \Rightarrow \frac{+}{a(a+3)}$ ← Goal: Condense to one fraction

(a) $\frac{2a}{a(a+3)} + \frac{1(a+3)}{a(a+3)} \Rightarrow \frac{2a^2 + a + 3}{a(a+3)}$ can't make 1's yet.

• $\frac{2a^2 + a + 3}{a(a+3)} \Rightarrow \left(\frac{\quad}{a(a+3)} \right)$ can't factor

$\frac{2a^2 + a + 3}{a(a+3)}$ ↑ answer

HW
Questions
?

① b

$$\frac{(x+2)(x^2-6x+9)}{(x-3)(x^2-4)}$$

1c

$$\frac{x+2}{2x^2-x-10}$$

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$$\textcircled{2} \quad \frac{7}{n} - \frac{n+3}{n^2} + \frac{2}{n}$$

$$\begin{array}{r} \\ - \\ \hline \end{array} \quad \begin{array}{c} \downarrow \\ + \end{array}$$

$$\textcircled{3} \quad \frac{n+4}{3n} - \frac{n-1}{n^2}$$

$$\begin{array}{r} \\ - \\ \hline \end{array}$$

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$$6x - 7y = -5 \quad -12x - 21y = 5$$

$$6x - 7y = -5 \quad -12x - 21y = 5$$

Add / Subtract Rational Functions

4

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

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

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

$$\frac{3x^2-5x-2}{(x-5)(3x+1)} \rightarrow \frac{\cancel{(3x+1)}(x-2)}{(x-5)\cancel{(3x+1)}} \rightarrow \boxed{\frac{x-2}{x-5}}$$

next example

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

← factor

↓

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

factor difference of two squares

↓

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

↓

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

↓

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

factor difference of two squares

↓

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

↓

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

↓

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

↓

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

common denom.

!)

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

→

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

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

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

$$\frac{x-2}{x-5}$$

Back & Forth

Partner₁ ↔ Partner₂

- Alternate who writes
- Choose one person's notes to write.

d

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$$\frac{1}{a} - \frac{2}{a^2} - \frac{3}{b}$$

$$\textcircled{B} \quad \frac{9-3x}{(x+3)(x-3)} + \frac{2x}{x+3}$$

Answer •

$$\frac{2x-3}{x+3}$$

See both recent LCQ's

d

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$$y = \frac{2x+7}{2x-7}$$

$$\frac{\cancel{2x}}{\cancel{2x}} = 1$$

$$\frac{10x+25}{2x^2-x-15} \rightarrow \frac{5(2x+5)}{(2x+5)(x-3)}$$

Assignment

3103a, 104d, 106, 107ab, 108-109

