

April 28th

Due Today: hw 11.3

Due Tomorrow: HW 11.4

Unit 11: Algebraic Fractions

Lesson 11.4: Multiplying/Dividing Algebraic Fraction

Get Ready:

Answers to HW 11.3

1) $\frac{b+4}{4b-12}$

2) $\frac{2m+1}{m^2+5m+4}$

3) $\frac{9b+31}{3b(b+4)}$

4) $\frac{b^2+8b+7}{3b(b+4)}$

5) $\frac{-10p^3-2p^2+2}{p(5p+1)}$

6) $\frac{7}{2(x+3)}$

7) $\frac{8r+18-r^2}{(r-5)(r+6)}$

8) $\frac{4x^2+13x-30}{2(x-6)(x+2)}$

9) $\{0, 4\}$

10) $\left\{0, \frac{3}{2}, -2\right\}$

11) $5r-2$

12) 8

13) $\frac{7x+1}{3x+5}$

14) $\frac{b^2(b+1)}{b-4}$

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HW review

①

$$\frac{2b}{4b-12} - \frac{b-4}{4b-12}$$

$$\frac{2b-b+4}{4b-12} = \frac{b+4}{4b-12} \text{ gcf}$$

$$\frac{b+4}{4(b-3)}$$

6

$$\frac{3}{2x+6} + \frac{2}{x+3} \frac{2}{2}$$

$$\frac{3}{2x+6} + \frac{4}{2x+6}$$

$$\boxed{\frac{7}{2x+6}} = \frac{7}{2(x+3)}$$

$$\textcircled{2} \quad \frac{3m+6}{m^2+5m+4} - \frac{(m+5)}{m^2+5m+4}$$

$$\frac{2m+1}{(m+4)(m+5)}$$

⑧

$$\frac{\cancel{2x+4} \cdot 2x}{2x+4 \cdot x-6}$$

$$+ \frac{5}{2x+4} \frac{x-6}{x-6}$$

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

$$4x^2 + 8x + 5x - 30$$

$$\boxed{4x^2 + 13x - 30} \text{ acge}$$

$$(\cancel{2x+4})(x-6)$$

$$2(x+2)(x-6)$$

$$\begin{array}{r} 13 \\ + \\ -120 \\ \hline \end{array} \text{ unf}$$

11.4 Multiplying + Dividing
Algebraic Fractions

multiplying/dividing Fractions

$$\frac{3}{2} * \frac{5}{3} = \frac{15}{6} = \boxed{\frac{5}{2}}$$

$$\frac{3}{2} \div \frac{5}{3}$$

$$\frac{3}{2} \cdot \frac{3}{5} = \frac{9}{10}$$

$$\begin{array}{ccc}
 \frac{(x+1) \cancel{(2x)}}{\cancel{(2x)} (x-3)} & \stackrel{?}{=} & \frac{(x+1)}{(2x)} * \frac{(2x)}{(x-3)} \\
 & \text{!!} & \\
 \frac{(x+1) \cancel{(2x)}}{\cancel{(2x)} (x-3)} & = & \frac{(x+1)}{\cancel{(2x)}} * \frac{\cancel{(2x)}}{(x-3)}
 \end{array}$$

Make your way to the answer!

PROBLEM	FACTOR THE PIECES	FACTORED PROBLEM + CANCEL	ANSWER
$\frac{k+10}{k+2} \cdot \frac{k^2-36}{k^2+16k+60}$ 	$k^2+16k+60$ work... $(\quad)(\quad)$ $k^2-36 \dots \dots \dots$ 	$\frac{k+10}{k+2} \cdot \frac{k^2-36}{k^2+16k+60}$ 	$\frac{k-6}{k+2}$
$\frac{n+7}{n+10} \div \frac{n-1}{n^2+9n-10}$			$n+7$

Challenge:

$$\frac{\textcircled{a} n+1}{\textcircled{a} 7n+42} \cdot \frac{\textcircled{b} n^2+15n+54}{\textcircled{c} n^2+8n+7} \div \frac{\textcircled{d} -2n-18}{\textcircled{e} 14n^4-7n^3}$$

$$\textcircled{a} \frac{7n+42}{\text{gcf}} : 7(n+6)$$

$$\textcircled{d} \frac{-2n-18}{\text{gcf}} : -2(n+9)$$

$$\textcircled{b} \frac{n^2+15n+54}{\diamond} = (n+6)(n+9)$$

$$\textcircled{e} \frac{14n^4-7n^3}{\text{gcf}} : 7n^3(2n-1)$$

$$\textcircled{c} \frac{n^2+8n+7}{\diamond} = (n+7)(n+1)$$

$$\frac{\cancel{n+1}}{\cancel{7(n+6)}} \cdot \frac{\cancel{(n+6)}(n+9)}{\cancel{(n+7)}(n+1)} \cdot \frac{7n^3(2n-1)}{-2\cancel{(n+9)}}$$

$$\frac{n^3(2n-1)}{-2(n+7)}$$

RECAP: 1. evaluate

2. ex. values

3. simplify

4. Add/sub

5. mult/divide

HOMEWORK:

NEXT TIME:

