Section 6.2: cont'd

Friday, November 08, 2013
9:30 AM

$2x^2 - 4x - 96$

$2(x^2 - 2x - 48)$ $\quad ac = -48$

$2(x^2 - 8x + 6x - 48)$ $\quad +6 \ -8$

$2[x(x-8) + 6(x-8)]$

$2(x+6)(x-8)$

$2x^2 - 4x - 96$ $\quad ac = -192$

$2x^2 - 16x + 12x - 96$

$2x(x-8) + 12(x-8)$

$(2x+12)(x-8)$

$2(x+6)(x-8)$

1	192
2	96
3	64
4	48
6	32
8	24

$+12 \ -16$

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multiply:

$$\frac{3a-3y}{3a-3y-ab+by} \cdot \frac{b^2-9}{6b+18}$$

$3a-3y-ab+by$

$3(a-y) - b(a-y)$

$(3-b)(a-y)$

$$\frac{3(a-y)(b+3)(b-3)}{(3-b)(a-y)\,6(b+3)} = -1$$

$$-\frac{1}{2}$$

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dividing rational expressions

$$\frac{3x}{4} \div \frac{y}{8}$$

← dividing by a fraction is equivalent to multiplying by the reciprocal

$$\frac{3x}{\cancel{4}} \cdot \frac{\cancel{8}^{2}}{y}$$

$$\frac{6x}{y}$$

$$\frac{(rt)^3}{rt^4} \div \frac{(rt^2)^3}{r^2t^3}$$

$$\frac{(rt)^3}{rt^4} \cdot \frac{r^2t^3}{(rt^2)^3}$$

$$\frac{r^3t^3}{rt^4} \cdot \frac{r^2t^3}{r^3t^6}$$

$$\frac{r^5t^6}{r^4t^{10}}$$

$$\frac{r}{t^4} \quad \text{or} \quad rt^{-4}$$

$$\frac{w^{2b} + 2w^b - 8}{w^{2b} + 3w^b - 4} \div \frac{w^{2b} - w^b - 2}{w^{2b} - 1}$$

$$\frac{w^{2b} + 2w^b - 8}{w^{2b} + 3w^b - 4} \cdot \frac{w^{2b} - 1}{w^{2b} - w^b - 2}$$

$w^{2b} + 2w^b - 8$ $\quad ac: -8$ $\quad -2 + 4$

$w^{2b} - 2w^b + 4w^b - 8$

$w^b(w^b - 2) + 4(w^b - 2)$

$(w^b + 4)(w^b - 2)$

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

1

let $w^b = y$

$y^2 + 2y - 8$

$(y - 2)(y + 4)$

$(w^b - 2)(w^b + 4)$