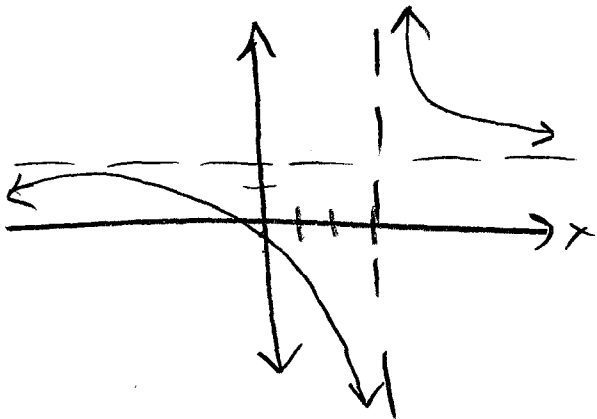


I changed #6, pg. 194

$$g(x) = \frac{2x+8}{x-3}$$

$$x-3 \overline{) 2 + \frac{14}{x-3}}$$

$$\begin{array}{r} 2x+8 \\ -(2x-6) \\ \hline 14 \end{array}$$



$$g(x) = \frac{14}{x-3} + 2$$

\swarrow right 3 \searrow up 2

VA: $x=3$

HA: $y=2$

p. 204 Simplify

② $\frac{5xy^3 - 2x^2y^2}{x^2y^2}$

$$= \frac{\overset{1}{x} \overset{1}{y} (5y^2 - 2xy)}{\overset{2}{x} \overset{2}{y}} = \boxed{\frac{5y-2x}{x}} \quad (x, y \neq 0)$$

⑨ $\frac{x^2-2x}{x+7} \cdot \frac{x^3+8}{x^3-4x}$ SOAP

$$= \frac{\overset{1}{x} (\overset{1}{x}-2)}{x+7} \cdot \frac{(\overset{1}{x+2})(x^2-2x+4)}{x(\overset{1}{x^2-4})}$$

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

$$= \boxed{\frac{x^2-2x+4}{x+7}} \quad (x \neq 0, -2, 2, -7)$$

10

pg. 204

$$\frac{3x(x-3)}{2x+1} + \frac{10}{(x-3)}$$

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

Split the Middle

$$ac = -6 < -6$$

$$b = -5 < 1$$

$$2x^2 - 6x + 1x - 3$$

$$2x(x-3) + 1(x-3)$$

$$(2x+1)(x-3)$$

$$\text{LCD} = (2x+1)(x-3)$$

$$\frac{3x^2-9x}{(2x+1)(x-3)} + \frac{10}{(2x+1)(x-3)}$$

$$= \frac{3x^2-9x+10}{(2x+1)(x-3)} \rightarrow ac=30$$

$$b=-9$$

can't factor!

$$(x \neq -\frac{1}{2}, 3)$$

13

$$\frac{12}{x^2-7x-44}$$

already a single fraction

$$\frac{2(x+4)}{x-11(x+4)} + \frac{1(x-11)}{x+4(x-11)}$$

$$\frac{2x+8}{(x-11)(x+4)} + \frac{x-11}{(x-11)(x+4)}$$

$$= \frac{3x-3}{(x-11)(x+4)}$$

KCF

$$\frac{12}{(x-11)(x+4)}$$

$$\frac{1}{(x-11)(x+4)} \cdot \frac{1}{3(x-1)}$$

$$= \frac{4}{x-1}$$

$$(x \neq 11, -4, 1)$$

pg. 213

(6) $\frac{3(x+2)}{x+1(x+2)} + \frac{4(x+1)}{x+2(x+1)} = \frac{15}{x+2(x+1)}$ LCD = (x+1)(x+2)

~~(x+1)(x+2)~~

$$\left[\frac{3x+6}{\cancel{(x+1)(x+2)}} + \frac{4x+4}{\cancel{(x+2)(x+1)}} = \frac{15x+15}{\cancel{(x+2)(x+1)}} \right]$$

$$3x+6+4x+4 = 15x+15$$

$$\begin{array}{r} 7x+10 = 15x+15 \\ -7x-5 \quad -7x-15 \\ \hline \end{array}$$

$$\frac{-5}{8} = \frac{8x}{8}$$

$$x = \frac{-5}{8} \quad \checkmark$$

CK:

$$\frac{3}{-\frac{5}{8}+1} + \frac{4}{-\frac{5}{8}+2} \stackrel{?}{=} \frac{15}{-\frac{5}{8}+2}$$

$$\frac{3}{.375} + \frac{4}{1.375} = \frac{15}{1.375}$$

$$10.901... = 10.901... \quad \checkmark$$



(10) $\frac{x+6(x-1)}{x-4(x-1)} - \frac{30}{x^2-5x+4} = \frac{3(x-4)}{x-1(x-4)}$ LCD = (x-4)(x-1)

~~$\left[\frac{x^2+5x-6}{(x-4)(x-1)} - \frac{30}{(x-4)(x-1)} = \frac{3x-12}{(x-4)(x-1)} \right]$~~

$$x^2 + 5x - 6 - 30 = 3x - 12$$

$$x^2 + 5x - 36 = 3x - 12$$

$$\underline{-3x + 12 \quad -3x + 12}$$

$$x^2 + 2x - 24 = 0$$

$$(x+6)(x-4) = 0$$

$x = -6$ $x = 4$ reject, makes it undefined

CK:

$$\frac{-6+6}{-6-4} - \frac{30}{(-6)^2-5(-6)+4} \stackrel{?}{=} \frac{3}{-6-1}$$

$$\frac{0}{-10} - \frac{30}{70} = \frac{3}{-7}$$

$$0 - \frac{3}{7} = -\frac{3}{7}$$

$$-\frac{3}{7} = -\frac{3}{7} \quad \checkmark$$