7-30-14

6.3

Ex 1 → 11, 9

2 → 13

3 → # ____, quiz 11; 41, 42

4 → 41, 42, 43, 51

5 → 53, 54,

6 → 61, 63

---

common denom.

(9.) $\frac{4}{(a+3)} + \frac{5}{(a+3)} = \frac{9}{(a+3)}$

(11.) $\frac{11}{(4x-7)} - \frac{3}{(4x-7)} = \frac{8}{(4x-7)}$

(13.) $\frac{3y+8}{2y} - \frac{(y+1)}{2y}$

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

(14.) $18t^2, 6t^5$; LCD, LCM

$\Rightarrow 18t^5 = LCM$

$\frac{18t^5}{18t^2} = t^3$; $\frac{18t^5}{6t^5} = 3$

(42) $8x^5, 24x^2$

$LCM = 24 \cdot x^5 = 24x^5$

$\frac{24x^5}{8x^5} = 3, \quad \frac{24x^5}{24x^2} = x^3$

Power of $x = 0$

$3 = 3 \cdot 1 = 3 \cdot x^0$

$x^0 = 1$

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(43) $15a^4b^7, 10a^2b^8$

$30 \cdot a^4 \cdot b^8$

(6

(57.) $6xz^2, 8x^2y, 15y^3z$

$120 \cdot x^2 \cdot y^3 \cdot z^2$

$6 = 2 \cdot 3$

$8 = 2 \cdot 2 \cdot 2$

$15 = 3 \cdot 5$

$\therefore LCD = \underbrace{2^3 \cdot 3^1 \cdot 5^1 x^2 y^3 z^2}_{120 x^2 y^3 z^2}$

F	G
2	3
3	1
5	1

$2^3 \cdot 3^1 \cdot 5^1$

$= 8 \cdot 15 = 120$

$$\begin{array}{r} 15 \\ \times\ 8 \\ \hline 120 \end{array}$$

(53.) $a+1,\ (a-1)^2,\ a^2-1$

$(a+1),\ (a-1)^2,\ a^2-1=a^2-1^2$

prime $(a+1),\ (a-1)(a-1),\ (a+1)(a-1)$

F	G
$(a+1)$	1
$(a-1)$	2

LCD $= (a+1)^1\cdot(a-1)^2$

$= \boxed{(a+1)(a-1)^2}$

$= \boxed{(a+1)(a-1)(a-1)}$

(54.) $(x-2),\ (x+2)^2,\ x^2-4$

$= (x+2)(x-2)$

answer $= (x-2)(x+2)^2$

$= (x-2)(x+2)(x+2)$

(A

(a1.)

$$\frac{7}{3x^4y^2} \; , \; \frac{4}{9xy^3}$$

$$LCD = 9 \cdot x^4 \cdot y^3$$

$$\frac{9x^4y^3}{3x^4y^2} = 3y$$

$$\frac{9x^4y^3}{9xy^3} = x^3$$

$$\frac{7}{3x^4y^2} \cdot \frac{3y}{3y} \; , \; \frac{4}{9xy^3} \cdot \frac{x^3}{x^3}$$

$$9x^4y^3 \qquad 9x^4y^3$$

9

$$\frac{21y}{9x^4y^3} \;\; \frac{4x^3}{9x^4y^3}$$

SUPPOSE I ADDED these

$$\frac{7}{3x^4y^2} + \frac{4}{9xy^3} = \frac{21y + 4x^3}{9x^4y^3}$$

REMIX: ASSUME LCD $= 9x^4y^3$

$$\frac{7}{3x^4y^2} + \frac{4}{9xy^3}$$

$9x^4y^3 / 9xy^3$

$$= \frac{7}{3x^4y^2} \cdot \frac{3y}{3y} + \frac{4}{9xy^3} \cdot \frac{x^3}{x^3} = \frac{21y}{9x^4y^3} + \frac{4x^3}{9x^4y^3}$$

$9x^4y^3 / 3x^4y^2$

$$= \frac{21y + 4x^3}{9x^4y^3}$$

6.4

Ex 1 → 7

Ex 2 → 9

3 → 33

4 → 27, 47

5 → 43, 53

practice → 11, 23

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7. $\frac{1}{6r} - \frac{3}{8r}$, LCD = 24r

$\frac{24r}{6r} = 4$ $\quad \frac{1}{6r} \cdot \frac{4}{4} - \frac{3}{8r} \cdot \frac{3}{3}$

$\frac{24r}{8r} = 3$ $\quad = \frac{4 - 9}{24r} = -\frac{5}{24r}$

(9.) $\frac{3}{uv^2} + \frac{4}{u^3v}$

$\rightarrow LCD = u^3v^2$

$\frac{u^3v^2}{uv^2} = u^2$

$\frac{u^3v^2}{u^3v} = v$

$\underbrace{\frac{3}{uv^2} \cdot \frac{u^2}{u^2}}_{u^3v^2} + \underbrace{\frac{4}{u^3v} \cdot \frac{v}{v}}_{u^3v^2}$

$= \frac{3u^2 + 4v}{u^3v^2}$

(33)

$$\frac{3a}{a^2-9} + \frac{a}{(a+3)}$$

$$a^2-9 = (a+3)(a-3)$$

$$\Rightarrow LCD = (a-3)(a+3)$$
$$= (a+3)(a-3)$$

F	G
$(a+3)$	1
$(a-3)$	1

$$LCD = (a+3)^1 \cdot (a-3)^1$$
$$= (a+3)(a-3)$$

$$\frac{3a}{(a+3)(a-3)} \cdot \frac{1}{1} + \frac{a}{(a+3)} \cdot \frac{(a-3)}{(a-3)}$$

$$= \frac{3a + a(a-3)}{(a+3)(a-3)}$$

full or E.C.

TRY to simplify =

$$= \frac{a^2}{(a+3)(a-3)}$$

$$= \frac{a^2}{a^2-9}$$

27.

$$\frac{t}{(t+3)} - \frac{1}{(t-1)}$$

$$LCD = (t+3)(t-1)$$

$$\frac{t}{(t+3)(t-1)} \cdot \frac{(t-1)}{} - \frac{1}{(t-1)(t+3)} \cdot \frac{(t+3)}{}$$

$$= \frac{t\cdot(t-1) - (t+3)}{(t+3)(t-1)}$$

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

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

$$\frac{(t-3)(t+1)}{(t+3)(t-1)}$$

47.) $$\frac{x}{x^2+9x+20} - \frac{4}{x^2+7x+12}$$

$$\frac{x}{(x+4)(x+5)} - \frac{4}{(x+3)(x+4)}$$

$$LCD = (x+4)(x+5)(x+3)$$

$$\frac{x}{(x+4)(x+5)} \cdot \frac{(x+3)}{(x+3)} - \frac{4}{(x+3)(x+4)} \cdot \frac{(x+5)}{(x+5)}$$

$$\frac{x(x+3)-4(x+5)}{(x+4)(x+5)(x+3)}$$

$$\frac{x^2+3x-4x-20}{(x+4)(x+5)(x+3)}$$

$$\frac{x^2-x-20}{(x+4)(x+5)(x+3)}$$

$$\frac{(x+4)(x-5)}{(x+4)(x+5)(x+3)}$$

x^2-x-20
$(x+4)(x-5)$

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

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

15

(43.)

$$\frac{x}{(x-5)} + \frac{x}{(5-x)}$$

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

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

$$= \frac{-x+x}{(5-x)} = \frac{0}{(5-x)}$$

$$= 0$$

53.

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

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

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

$5x+(x-2)$

$5x+x-2$

$6x-2$

$$= \frac{6x-2}{4}$$

$6x-2$

$= 2 \cdot 3 \cdot x - 2 \cdot 1$

$= 2 \cdot (3x-1)$

$$= \frac{2(3x-1)}{4_2} = \frac{(3x-1)}{2} = \boxed{\frac{3x-1}{2}}$$

17

23.)

$$\frac{4x+2t}{3xt^2} - \frac{(5x-3t)}{x^2t}$$

$$LCD = 3 \cdot x \cdot t^2$$

$$\frac{(4x+2t)}{3xt^2} - \frac{(5x-3t)}{x^2t}$$

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

x^2

$\frac{3x^2t^2}{3xt^2} = x;$

$\frac{3x^2t^2}{x^2t} = 3t$

$$\frac{x\cdot(4x+2t)-3t\cdot(5x-3t)}{3x^2t^2}$$

$$= \frac{4x^2+2xt-15xt+9t^2}{3x^2t^2}$$

$$= \frac{4x^2-13xt+9t^2}{3x^2t^2}$$