⑤ $7(2x-3)-11x$

$14x-21-11x$

$3x-21$

⑥ $7(4x^2+3x)+2(5x^2+x)$

$28x^2+21x+10x^2+2x$

$38x^2+23x$

⑦ $6x+4[7-(x-2)]$

$6x+4[7-x+2]$

$6x+4[9-x]$

$6x+36-4x$

$2x+36$

6.2 $ax+b=0$, $a\neq 0$

$a=b$

② $a+c=b+c$

③ $a\cdot c=b\cdot c$

① $4x+5=29$

$-5 \quad -5$

$4x=24$

$\frac{4x}{4}=\frac{24}{4}$

$x=6$

$4(6)+5=29$ ✓

② $6(x-3)-10x=-10$

$6(-2-3)-10(-2)=-10$ ✓

$6x-18-10x=-10$

$-18-4x=-10$

$+18 \quad +18$

$-4x=8$

$\frac{-4x}{-4}=\frac{8}{-4}$

$x=-2$

③ $2x+9=8x-3$

$-2x \quad -2x$

$9=6x-3$

$+3 \quad +3$

$12=6x$

$\frac{12}{6}=\frac{6x}{6}$

$2=x$

$x=2$

$2(2)+9=8(2)-3$

$4+9=16-3$

$13=13$ ✓

④ $4(2x+1)=29+3(2x-5)$

$44=4(2(5)+1)=29+3(2(5)-5)$

$8x+4=29+6x-15$

$8x+4=14+6x$

$-6x \quad -4 \quad -4 \quad -6x$

$2x+0=10+0$

$\frac{2x}{2}=\frac{10}{2}$

$x=5$

⑤ $\frac{2x}{3} = 7 - \frac{x}{2}$

$6 \cdot \frac{2x}{3} = \left(7 - \frac{x}{2}\right)6$

LCD = 2·3 = 6

$\frac{2}{2}\frac{2x}{3} = \frac{6}{6}\frac{7}{1} - \frac{3}{3}\frac{x}{2}$

$2 \cdot 2x = 42 - 3x$

$4x = 42 - 3x$

$+3x \qquad +3x$

$7x = 42$

$x = \frac{42}{7} = 6$

$\frac{3x}{6} + \frac{4x}{6} = \frac{42}{6} - \frac{3x}{6} + \frac{3x}{6}$

$\frac{7x}{6} = \frac{42}{6}$

$7x = 42$

$x = \frac{42}{7} = 6$

$\frac{2(6)}{3} = 7 - \frac{6}{2}$

$\frac{12}{3} = 7 - 3$

$4 = 4$ ✓

$\frac{37}{50}$

$1 - \frac{37}{50}$

$\frac{50}{50} - \frac{37}{50} = \frac{13}{50}$

$\frac{d}{d}\frac{a}{b} = \frac{c}{d}\frac{b}{b}$

$LCD = bd$

$da = cb$

$ad = bc$

7a. $\frac{3}{3}\frac{10}{x} = \frac{2}{3}\frac{x}{x}$

$LCD = 3x$

$3x \cdot \frac{30}{3x} = \frac{2x}{3x} \cdot 3x$

$30 = 2x$

$15 = x$

$x = 15$

$\frac{10}{x} = \frac{2}{3}$

$10 \cdot 3 = 2x$

$30 = 2x$

$\frac{30}{2} = x$

$x = 15$

7b. $\frac{22}{(60-x)} = \frac{2}{x}$

$LCD = x(60-x)$

$\frac{22}{(60-x)}\frac{x}{x} = \frac{2(60-x)}{x(60-x)}$

$22x = 2(60-x)$

$22x = 120 - 2x$

$24x = 120$

$x = \frac{120}{24} = 5$

$$\frac{\$3500}{250{,}000} = \frac{t}{420{,}000}$$

$$.014 = \frac{35}{2500} = \frac{t}{420{,}000}$$

$$35(420{,}000) = 2500t$$

$$t = \frac{35(420{,}000)}{2500}$$

$$t = 5880$$

⑨ $$\frac{25}{150} = \frac{120}{P} = \frac{1}{6}$$

$$25P = 120 \cdot 150$$

$$25P = 18{,}000$$

$$P = 720 \text{ deer}$$

5.3.63

$$\left(3\frac{3}{4}\right)\left(1\frac{3}{5}\right) = \left(\frac{4\cdot 3+3}{4}\right)\left(\frac{5\cdot 1+3}{5}\right) = \frac{3}{1}\cdot\frac{2}{1} = \frac{6}{1} = 6$$

$$\frac{15}{4}\cdot\frac{8}{5} = \frac{120}{20}$$

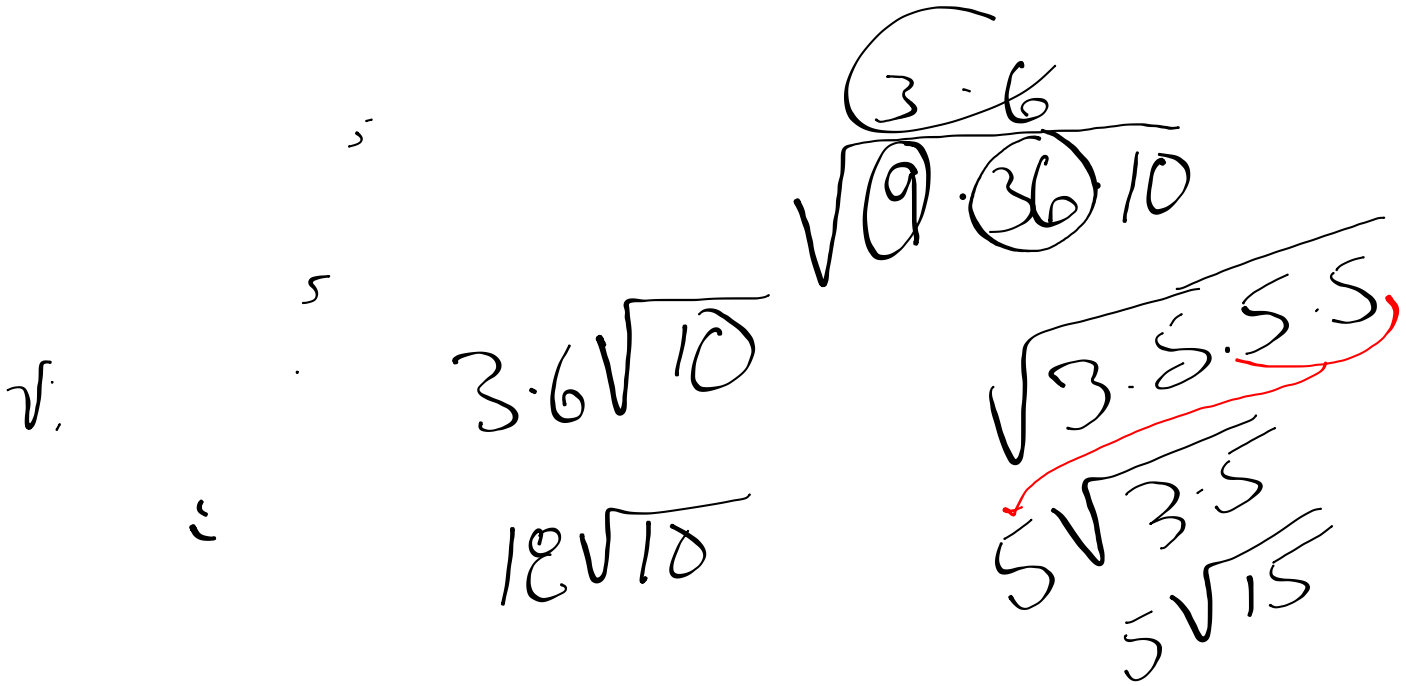
5.3.69

$$6\frac{3}{5} \div 1\frac{1}{10} = \frac{5 \cdot 6 + 3}{5} \div \frac{10 \cdot 1 + 1}{10} = \frac{33}{5} \div \frac{11}{10}$$

$$= \frac{33}{5} \cdot \frac{10}{11} = \frac{330}{55} = \frac{6}{1} = 6$$

$$\frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \cdot \frac{d}{c}$$

$$\frac{\cancel{33}^{3}}{\cancel{5}_{1}} \cdot \frac{\cancel{10}^{2}}{\cancel{11}_{1}} = 6$$


3·6
√9·36·10
3·6√10
18√10
√3·5·5·5
5√3·5
5√15

$\sqrt{17761}$

17761

3 batches requires 4 eggs

$\frac{4 \text{ eggs}}{3 \text{ batches}} = \frac{X}{5 \text{ batches}}$

$X = \frac{4 \text{ eggs} \cdot 5 \text{ batches}}{3 \text{ batches}} = \frac{20}{3} \text{ eggs}$

$6\frac{2}{3} \rightarrow 7 \text{ eggs}$

5.4.45

$$4\sqrt{2} - 5\sqrt{2} + 8\sqrt{2}$$

$$(4-5+8)\sqrt{2} = 7\sqrt{2}$$

5.4.52

$$4\sqrt{12} + 2\sqrt{75}$$

$$4\sqrt{2\cdot2\cdot3} + 2\sqrt{3\cdot5\cdot5}$$

$$4\cdot2\sqrt{3} + 2\cdot5\sqrt{3}$$

$$8\sqrt{3} + 10\sqrt{3} = 18\sqrt{3}$$

5.4.55

$$3\sqrt{75} + 2\sqrt{12} - 2\sqrt{48}$$

$$3\sqrt{3\cdot5\cdot5} + 2\sqrt{2\cdot2\cdot3} - 2\sqrt{2\cdot2\cdot2\cdot2\cdot3}$$

$$3\cdot5\sqrt{3} + 2\cdot2\sqrt{3} - 2\cdot2\cdot2\sqrt{3}$$

$$15\sqrt{3} + 4\sqrt{3} - 8\sqrt{3}$$

$$11\sqrt{3}$$

$$\sqrt[4]{12 \cdot 4^2 \cdot 9^7}$$

$$= \sqrt[4]{12 \cdot 4^2 \cdot 9^6 \cdot 9^1}$$

$$= 4 \cdot 4 \cdot 9^3 \sqrt[4]{12 \cdot 9}$$

$$= 4 \cdot 4 \cdot 9^3 \sqrt[4]{2 \cdot 2 \cdot 3 \cdot 3 \cdot 3}$$

$$= 4^2 \cdot 9^3 \cdot 2 \cdot 3 \sqrt[4]{3}$$

$$= 2^5 3^7 \sqrt[4]{3}$$

6.1 60/59/55

$6-5[8-(2y-4)]$

$6-5[8-2x+4]$

$6-5[12-2x]$

$6-60+10x$

$10x-54$

$6-5[8+-1(2x-4)]$

$-2y$

$6+(-5)[12-2x]$

$6-60+10x$

$-54+10x$