

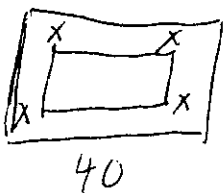
Algebra I Team Plant City - 01

1) $\frac{x}{100-x} \times \left(\frac{100-x}{x} = 7 + \frac{4}{x} \right)$

$100-x = 7x + 4$
 $|88-12| = (76) \quad 96 = 8x$
 $x = 12$
 $100-x = 88$

76

2)



$32(40-2x)(32-2x) = 560$

$1280 - 144x + 4x^2 = 560$

$4x^2 - 144x + 720 = 0$

$x^2 - 36x + 180 = 0$

$(x-6)(x-30) = 0$

$x-6=0$ or $x-30=0$

$(x-6)$ or $x=30$

6

3)

$u=8 \quad u+t+h=9$
 $t=5 \quad u=3h \quad h=\frac{4}{3} \quad h=\frac{3}{7}$
 $h=1 \quad u=2t-7 \quad u=2(5)-7$

153

153

$3 \left(2\frac{1}{2} + 7 + \frac{4}{3} = 9 \right) \quad u=3$

$6t - 21 + 3t + u = 27$

$9t + u = 48$

$9t + 2t - 7 = 48$

$11t = 55$

$t=5$

$$4) 7^0 = 1$$

$$7^1 = 7$$

$$7^2 = 49$$

$$7^3 = 343$$

$$7^4 = 2401$$

$$\frac{1987}{4} = 496R3$$

3

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

$$2x-2 = x^2+x$$

$$x^2+x+1=0$$

$$(x+1)^2=0$$

$$x+1=0$$

$$x=-1$$

$$\frac{1}{x^2-x} = \frac{1}{2x-2}$$

$$x^2-x = 2x-2$$

$$x^2-3x+2=0$$

$$(x-2)(x-1)=0$$

$$x=2 \quad | \quad x=1$$

but 1 doesn't work

sum =

2

2

$$6) \frac{2}{4} = \frac{1}{3}$$

$$\frac{2}{4} - \frac{1}{3}$$

$$7) \frac{\frac{3}{7} + \frac{12}{5}}{2} = \frac{99}{70}$$

$$\frac{99}{70}$$

$$8) 5(\frac{1}{2}) \cdot 2\frac{1}{2} \cdot 60 \cdot 2600$$

$$\frac{15 \cdot 2600}{2}$$

$$7.5 \times 10^5$$

$$7.5 \times 10^5$$

$$9) \frac{(3x^2y)^2}{(2x-2)^3} \cdot \frac{4x-4y}{xy^2}$$

$$\frac{9x^4y^2}{8x^{-6}} \cdot \frac{4x-4y}{xy^2}$$

$$\frac{9}{2} \frac{x^3y^6}{x^{-5}y^2} = \frac{9}{2} x^{+8} y^4 =$$

$$\boxed{\frac{9x^8y^4}{2}}$$

~~(1/2) x^8 y^4~~

$$10) \frac{4x^2+4x+1}{ax+b} = \frac{(2x+1)^2}{ax+b} \quad \begin{matrix} a=2 \\ b=1 \end{matrix}$$

$$\frac{2x^2-5x+c}{2x+1} \quad c=-3$$

$$2+1-3 = 0$$

$\boxed{0}$

$$11) \begin{matrix} n = 5x+10 \\ d = x = 16 \\ q = x-2 = 14 \end{matrix} \quad \begin{matrix} 5x+10+x+x-2=50 \\ 3x+8=50 \\ 7x=42 \\ x=6 \end{matrix}$$

~~90(0.95) + 16(1.00) + 14(1.05)~~

~~116.60~~

$$\begin{matrix} n = 5x+10 = 40 & = & 2.00 \\ d = x = 6 & & .60 \\ q = x-2 = 4 & & 1.00 \end{matrix}$$

$\boxed{3.60}$

$$12) \left(\frac{x}{180} + \frac{x}{150} = 1 \right) 900$$

$$5x + 6x = 900$$

$$11x = 900$$

$$x = 81\frac{9}{11}$$

$$82 \text{ min}$$

$$13) 70 \cdot 2 + 100x = 80(x+2)$$

$$140 + 100x = 80x + 160$$

$$20x = 20$$

$$x = 1$$

$$14) ax + bx = 2r + 1$$

$$x(a+b) = 2r + 1$$

$$x = \frac{2r+1}{a+b}$$

$$\frac{2r+1}{a-b}, a \neq b$$

$$15) \frac{x}{45} + \frac{55-x}{950} = 2\frac{5}{6} - \frac{2}{3}$$

$$x = 30$$

1 hr. 22 min
or
82 min.

1

30