HW: Proportions in Real Life

1.) $\frac{\frac{1}{4}\text{ in}}{30\text{ mi}} = \frac{3\frac{1}{2}}{x}$

$\frac{1}{4}x = 30(3.5)$

$4 \cdot \frac{1}{4}x = 105(4$

$x = 420$ miles

2.) $\frac{\frac{1}{4}\text{ in}}{30\text{ mi}} = \frac{1\frac{12}{16}}{x}$

$\frac{1}{4}x = 30(1.75)$

$4 \cdot \frac{1}{4}x = 22.5(4)$

$x = 90$ miles

3.) $\frac{12.97\text{ Pesos}}{\$1\text{ US}} = \frac{x}{650}$

$x = (650)(12.97)$

$x = 8430.50$ pesos

4.) $\frac{12.97\text{ Pesos}}{\$1\text{ US}} = \frac{583.65}{x}$

$\frac{12.97x}{12.97} = \frac{583.65}{12.97}$

$x = \$45\text{ US}$

5.) $\frac{2\text{ oz}}{\text{amount}} = \frac{\$1.85}{2}$

$= \$0.93/\text{oz}$

$\frac{5\text{ oz}}{\$4.15} = \frac{5}{\$0.83/\text{oz}}$

$\frac{8\text{ oz}}{\$7.29} = \frac{8}{\$0.91/\text{oz}}$

Best deal

6.) $\frac{5\text{ lip glosses}}{\$11.45} = \frac{7}{x}$

$5x = 11.45(7)$

$\frac{5x}{5} = \frac{80.15}{5}$

$x = \$16.03$

for 7 lip glosses

8.)

$6x - 4(x+8) < 7x - 35$

$6x - 4x - 32 < 7x - 35$

$2x - 32 < 7x - 35$

$-7x \quad -7x$

$-5x - 32 < -35$

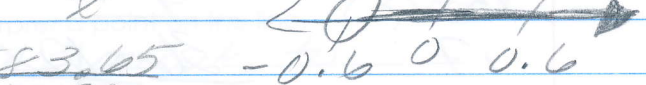
$+32 \quad +32$

$\frac{-5x}{-5} < \frac{-3}{-5}$

$x > \frac{3}{5}$

or

$x > 0.6$



9.) $\frac{3x-1}{9} = \frac{x+4}{12}$

$9(x+4) = 12(3x-1)$

$9x + 36 = 36x - 12$

$-36x \quad -36x$

$-27x + 36 = -12$

$-36 \quad -36$

$\frac{-27x}{-27} = \frac{-48}{-27}$

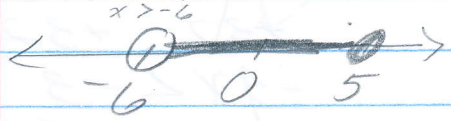
$x = 1\frac{20}{27}$

or

$x = 1.\overline{7}$

10.) $-6 < x \leq 5$

$x > -6$



Let

11.)

P = 40	width
length	

$5x+2$

$5(3)+2$

$15+2$

17

$P = 2l + 2w$

$40 = 2(5x+2) + 2(x)$

$40 = 10x + 4 + 2x$

$40 = 12x + 4$

$-4 \quad -4$

$\frac{36}{12} = \frac{12x}{12}$

$x = 3$

width = 3 ft

length = 17 ft