

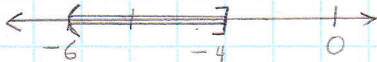
1a $6x - 10 = 3x + 10 \Rightarrow 3x = 20 \Rightarrow x = \frac{20}{3}$

1b $9 - 6 + 6x = 3 + 2(3 - x) \Rightarrow 6x + 3 = -2x + 9 \Rightarrow 8x = 6 \Rightarrow x = \frac{3}{4}$

1c $3x + 7 = 3x + 2 \Rightarrow 7 = 2 \Rightarrow \text{Contradiction. Solution set: } \emptyset$

2a $x \leq -8 \Rightarrow (-\infty, -8]$, with graph 

2b $14m - \frac{7}{5} < 4m + \frac{10}{3} \Rightarrow 10m < \frac{7}{5} + \frac{10}{3} \Rightarrow 10m < \frac{71}{15} \Rightarrow m < \frac{71}{150} \Rightarrow (-\infty, \frac{71}{150})$, 

2c $-18 < 3t \leq -12 \Rightarrow -6 < t \leq -4 \Rightarrow (-6, -4]$, 

3 $ar - r = -2k - 3y \Rightarrow r(a - 1) = -2k - 3y \Rightarrow r = \frac{-2k - 3y}{a - 1} = \frac{3y + 2k}{1 - a}$

4 $12 + 4x$

5 Let x = length of middle side, so: $(x - 75) + x + (x + 375) = 3075 \Rightarrow 3x + 300 = 3075 \Rightarrow 3x = 2775 \Rightarrow x = 925 \Rightarrow \text{Answers: } 925 \text{ miles, } 850 \text{ miles, } 1300 \text{ miles}$

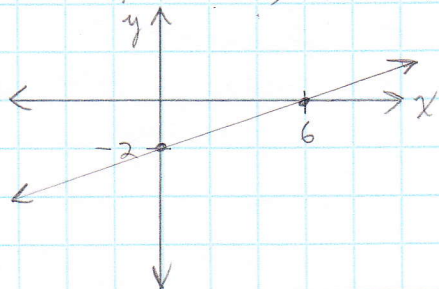
6 Let x = pre-tax amount, so $x + 0.075x = 2725 \Rightarrow 1.075x = 2725 \Rightarrow x = 2534.88$,
so amount of tax is $\$2725 - \$2534.88 = \$190.12$

7 Let l = # of liters of 14% solution. Then $0.14l + 0.50(20) = 0.30(l + 20)$ is the equation.
So $0.14l + 10 = 0.30l + 6 \Rightarrow -0.16l = -4 \Rightarrow l = 25 \text{ Liters.}$

8a $x \leq 6$ & $x \geq 2$, so $[2, 6]$ with graph 

8b $x < 6$ & $x > 9$, no solution

9 x-intercept: $(6, 0)$, y-intercept: $(0, -2)$



10 $\left(\frac{-\frac{1}{2} + \frac{3}{2}}{2}, \frac{\frac{1}{3} + \frac{5}{3}}{2} \right) = \left(\frac{1}{2}, 1 \right)$