HW38

1. a) $x \rightarrow$ cars
   $y \rightarrow \$$
   b) starting \$3
   cost per wash \$5

2. a) $x \rightarrow$ tickets
   $y \rightarrow$ money left
   b) starting with \$20
   \$2 per ticket.

3. a) $x \rightarrow$ time
   $y \rightarrow$ distance from line
   b) started behind the line -4
   6 distance per time

4. a) $\frac{17.03-12.07}{6.3-4.7} = 3.1$
   b) $y = 3.1x - 2.5$

5. a) $\frac{2-11}{4-2} = \frac{-9}{2} = -4.5$
   b)

x	y	
-1	24.5	> -4.5
0	20	

   $y = -4.5x + 20$

6. a)

x	y	
0	-8	
3	-15.8	> -11.7
7.5	-27.5	> -6.5
10	-34	

   +4.5 <
   slope: $\frac{-11.7}{4.5} = -2.6$
   b) $y = -2.6x - 8$

7.

x	y	
-3.5	5.08	> .034
-2.4	5.114	> .034
-1.3	5.148	> .088
1.55	5.236	

   +1.1 <
   +1.1 <
   slope: $\frac{5.148-5.08}{-1.3-(-3.5)} = \frac{0.068}{2.2} = 0.0309$
   $\frac{0.068}{2} = 0.034$
   $\frac{.088}{x} = \frac{.0309}{1}$ ✗
   $.088 = .0309x$
   $2.85 = x$
   b) $y = .0309x + b$
   $5.08 = .0309(-3.5) + b$
   $5.188 = b$
   $\boxed{y = 0.0309x + 5.188}$

8. They started at 1m from the sensor. Walked for 3 seconds away from the sensor at 1.3 m/s. Then stood for 3 seconds. Finally walked toward the sensor for 2 seconds at 1.5 m/s.

9. a) $y = 14 - 5x$
   b) $y = 12 + 2.8x$

10. $7\left(\frac{5(x+2)-1}{7}\right) = (12)7$
    $5(x+2) - 1 = 84$
    $+1 \quad +1$
    $\frac{5(x+2)}{5} = \frac{85}{5}$
    $x + 2 = 17$
    $-2 \quad -2$
    $\boxed{x = 15}$