

**Math 80**  
**Exam 1 Answers**

1. Unknowns: Width =  $w$ , Length =  $3w$                       Equation:  $w + w + 3w + 3w = 160$

Solution:  $w = 20 \Rightarrow$  The width is 20 meters and the length is 60 meters.

2. Unknown: Time spent running =  $t$                       Equation:  $8t + 4(1.5) = 10$

Solution:  $t = \frac{1}{2} \Rightarrow$  You spend  $\frac{1}{2}$  hour (or 30 minutes) running.

3. (a)  $t = 1$

(b)  $x = \frac{5}{2}$

4. Slope of Line Perpendicular to  $L_1 = \underline{-\frac{1}{2}}$  (since the slope of  $L_1$  is 2)

5. (a) The car is going approximately 20 miles per hour.

(b) The car is going 10 mph at approximately 5 seconds, 33 seconds, and 60 seconds.

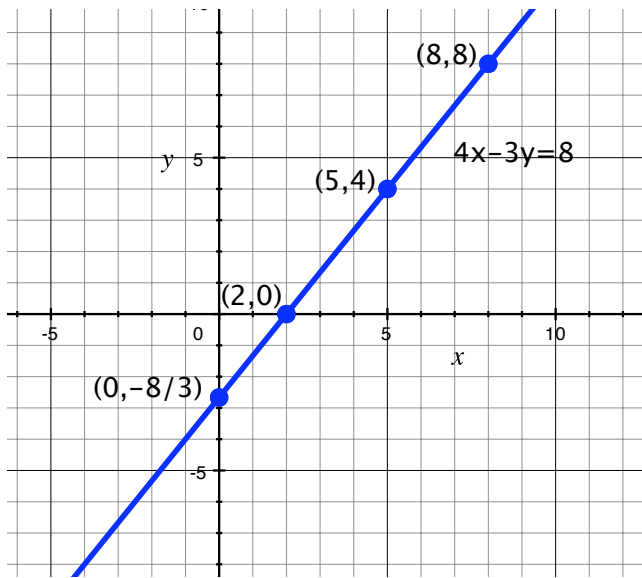
(c) The driver is stopped at the light for approximately 15 seconds (from time 35 to time 50).

6. (a) No, the values  $x = 1$  and  $y = -4$  do not satisfy the equation.

(b) (5, 4) and (8, 8)

(c) (2, 0) and  $(0, -\frac{8}{3})$

(d) You can use any two points from parts (b) and (c) or you can find new points.



(e) Slope =  $\frac{4}{3}$