

# Practice Quiz 10

Show All Work

MTH U121

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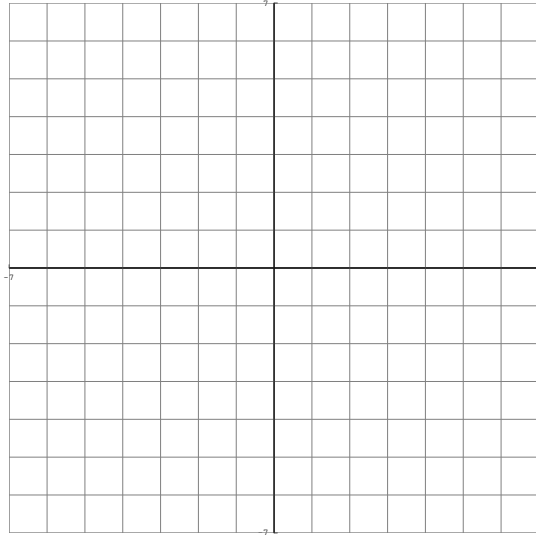
\_\_\_\_\_  
Name

- 1a. Carefully sketch the graphs of the two functions.

$$L1: y = -2x - 6$$

$$L2: y = \frac{x}{2} + 4$$

- b Solve the simultaneous equations {L1, L2}.



2. Solve the following system of linear equations for  $x, y$  and  $z$ . (You may use your calculator to check your answer-but you still must show the computational work to receive credit.)

$$\begin{aligned}x + y + 5z &= 29 \\2x + 5y - 3z &= 21 \\5x - 2y + 2z &= 18\end{aligned}$$

3. Solve the following system of linear equations for  $x, y$  and  $z$ . (You may use your calculator to check your answer-but you still must show the computational work to receive credit.)

$$\begin{aligned}2x + 3y + z &= 7 \\3x + 2y - 2z &= 11 \\5x + 7y + z &= 18\end{aligned}$$

- 4a. A local car show charges \$3.50 for children and \$7.00 for adults. One day last week the total revenue was \$11,550.00 and the total number of people was 2,400.00. How many children and how many adults were there that day?

- 4b. A competing car show has different rates for both children and adults. Last Monday there were 800 children and 400 adults and this brought in \$3,700.00. Last Tuesday, there were 550 children and 250 adults and this brought in \$2,450.00. How much does this establishment charge for children and adults?

**Ans:** 1:  $(-4, 2)$ ; 2:  $(4, 5, 4)$  3:  $(3, \frac{1}{2}, -\frac{1}{2})$ ; 4a: *Children* = 1500, *adults* = 900 b: children's price = \$2.75 and adult's price = \$3.75;

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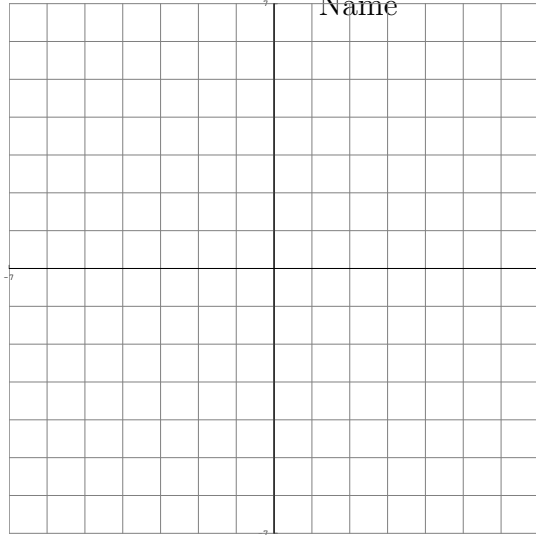
Name \_\_\_\_\_

- 5a. Carefully sketch the graphs of the two functions.

$$L1: y = 3 - 2x$$

$$L2: y = \frac{x}{2} - 2$$

- b Solve the simultaneous equations {L1, L2}.



6. Solve the following system of linear equations for  $x, y$  and  $z$ . (You may use your calculator to check your answer-but you still must show the computational work to receive credit.)

$$x + y + 2z = -7$$

$$3x + 2y - 4z = 12$$

$$5x - 2y + 2z = 10$$

7. Solve the following system of linear equations for  $x, y$  and  $z$ . (You may use your calculator to check your answer-but you still must show the computational work to receive credit.)

$$2x + 2y + 2z = 12$$

$$3x + y - z = 15$$

$$5x + 7y + z = 37$$

- 8a. A local car show charges \$2.50 for children and \$5.50 for adults. One day last week the total revenue was \$5,750.00 and the total number of people was 1,700.00. How many children and how many adults were there that day?

- 8b. A competing car show has different rates for both children and adults. Last Monday there were 900 children and 400 adults and this brought in \$7,675.00. Last Tuesday, there were 500 children and 250 adults and this brought in \$4,437.50. How much does this establishment charge for children and adults?

**Ans:** 5:  $(2, -1)$ ; 6:  $(2, -3, -3)$  7:  $(4, \frac{5}{2}, -\frac{1}{2})$ ; 8a: *Children* = 1200, *adults* = 500 b: children's price = \$5.75 and adult's price = \$6.25;