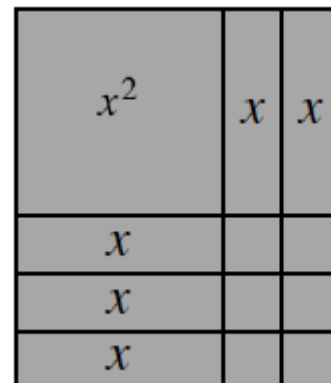


Name \_\_\_\_\_ Core \_\_\_\_\_ Date \_\_\_\_\_

### Practice Problems # 14

**5-37.** Examine the rectangle formed with algebra tiles at right.

a. Find the expression that represents the area of the entire rectangle.



b. Find the perimeter (outside edge) of the entire rectangle. Show all work.

**5-39.** A local restaurant offers a Dim Sum lunch special that includes two dumplings, three egg rolls, a sweet bun, and a drink. Susan and her friends ordered four Dim Sum lunch specials.

How many of each item should they receive? Show all work.

**5-40.** Solve each equation for  $x$ . Eliminate the fractions first.

a.  $\frac{x}{2} + \frac{x}{5} = 1$

b.  $\frac{x}{3} + \frac{x-1}{4} = 2 + x$

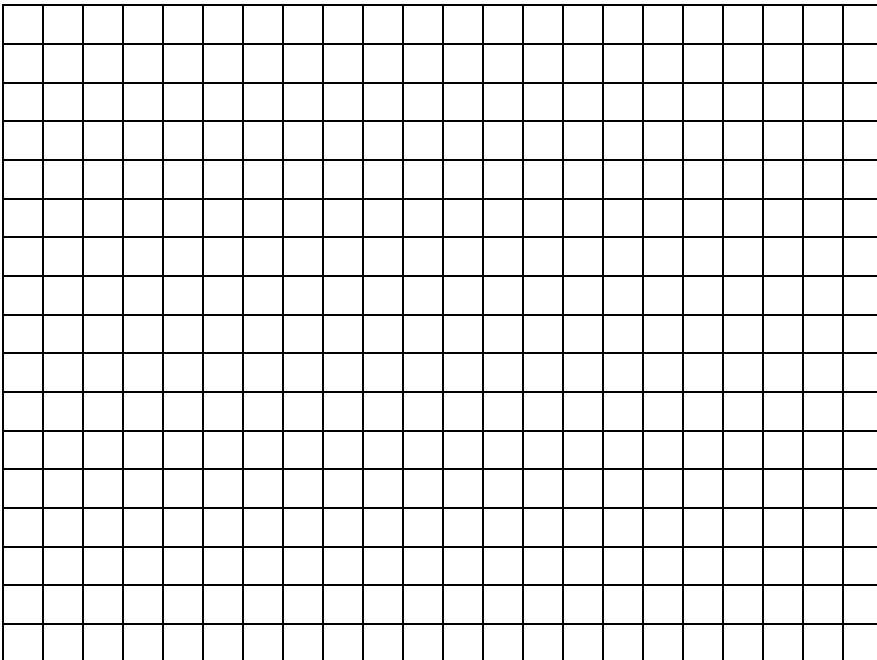
**5-36.** It is the end of the semester, and the clubs at school are recording their profits. The Science Club started out with \$20 and has increased its balance by an average of \$10 per week. The Math Club has saved \$5 per week after starting out with \$50 at the beginning of the semester.

a. Create an equation for each club. Let  $x$  represent the number of weeks and  $y$  represent the balance of the club's account.

Science Club equation:

Math Club equation:

b. Make a complete Graph and graph both lines on one set of axes.



c. When do the clubs have the same balance?

d. What is the balance at that point?

**5-47.** Sam claims that (3, 6) is the point of intersection of the lines  $y = 4x - 2$  and  $y = \frac{1}{2}x + 5$ .

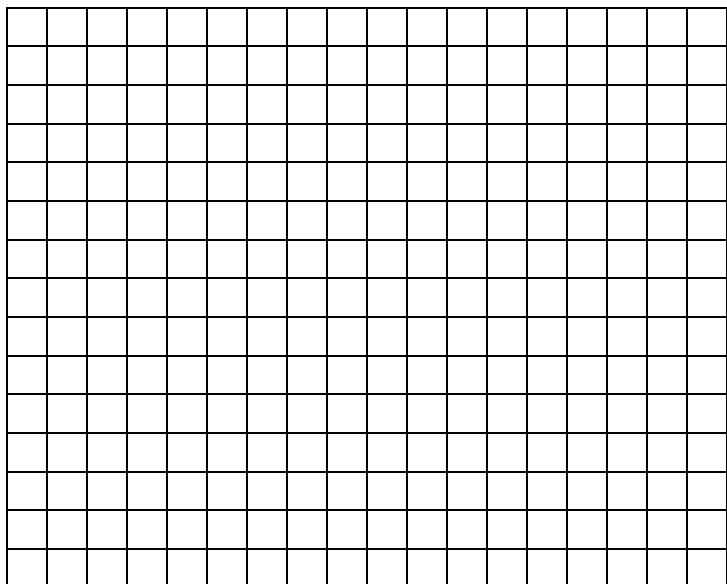
Is he correct? Show all work.

**5-49.** Solve each equation for the variable. Eliminate the fractions first.

$$\frac{7y}{8} - \frac{3y}{5} = \frac{11}{2}$$

$$\frac{a+4}{3} - \frac{a}{7} = \frac{a+7}{5}$$

**5-50.** Graph the lines  $y = 2x - 3$  and  $y = 2x + 1$  on the same set of axes.



a. Where do they intersect? Label it on the graph and write it as an ordered pair below.

(      ,      )

b. Solve this system using the Equal Values Method.

c. Explain how your graph and algebraic solution relate to each other.