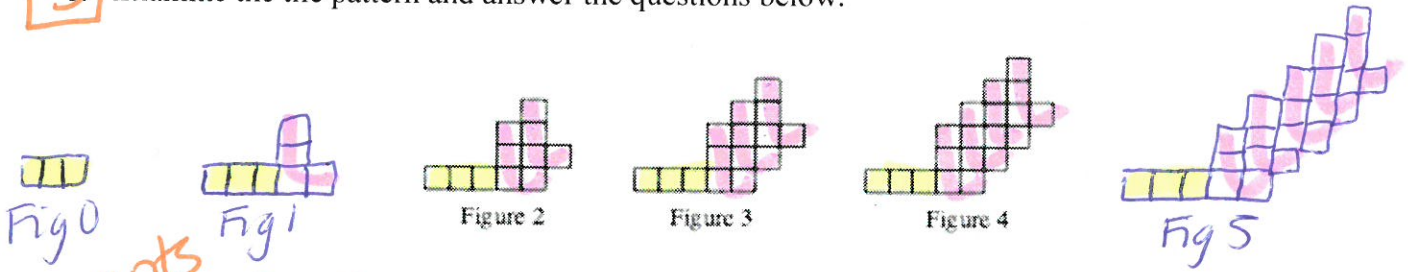


**make retake*

Show ALL work for each problem to receive full credit.

5. Examine the tile pattern and answer the questions below.



2 pts a. Draw Figure 1 and Figure 5 on graph paper.

b. How many squares are in the 10th figure? Explain how you know.

43 tiles

2 pts

x	0	1	2	3	4	5	6	7	8	9	10
y	3	7	11	15	19	23	27	31	35	39	43

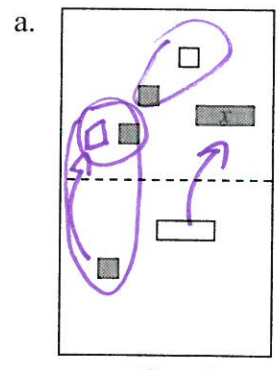
$y = 4x + 3$

c. Describe how the pattern grows.

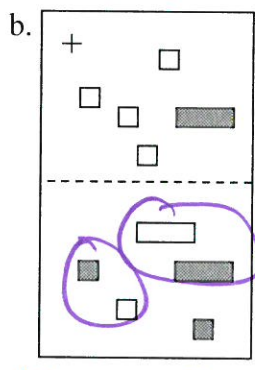
1 pt

add four each time in the shape of an L stacked on the right side of the figure.

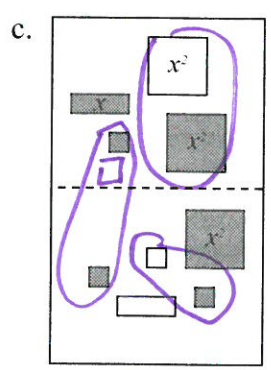
3. Write the simplified algebraic expression for each of the following expression mats.



2x



x - 5



$-x^2 + 2x$

3. Simplify the following expressions by combining like terms. Using algebra tiles or drawing diagrams may be helpful.

a. $3xy + 4(-x) - y + 2 + y + 5$

1 pt $-x + 3xy + 11$

b. $2y + 1 - xy - y + 2xy - 10 - x - 3x$

1 pt $-4x + y + xy - 9$

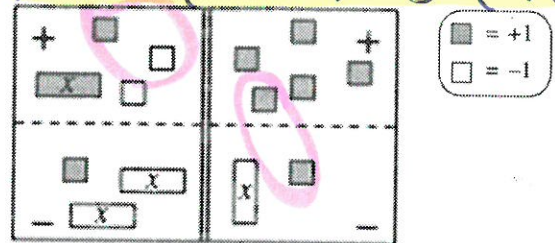
4. Write the equation represented below on your paper. Simplify as much as possible, and then solve for x. Be sure to record all your steps.

3 pts

$3x - 2 = -x + 4$
 $-x$
 $2x - 2 = 4$
 $2x = 6$
 $x = 3$

$2x = 6$
 $\frac{2x}{2} = \frac{6}{2}$
 $x = 3$

$x + 1 - 2 - (-2x + 1) = 5 - (-x + 1)$



5. Simplify each as much as possible, and solve for x or y . Be sure to record each step of your solution process. If you cannot solve for the given variable, explain why not. Using algebra tiles or drawing diagrams may be helpful.

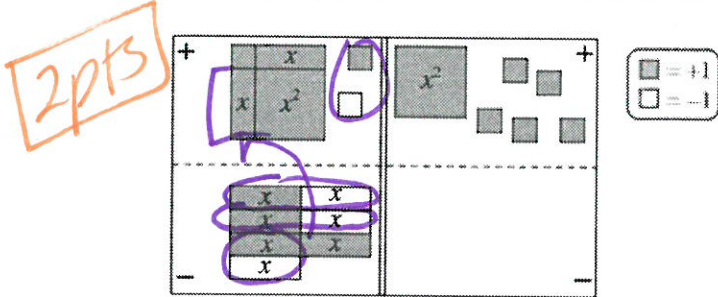
2pts a. $x - 4 = -3$
 $+4 \quad +4$
 $x = 1$

2pts b. $-2 + 3x - (5 + 3x) = 1 - 4x + 6$
 $x = 7/2$ or $3\frac{1}{2}$

$-2 + 3x - 5 - 3x = 1 - 4x + 6$
 $-7 = 1 - 4x + 6$
 $-7 = -4x + 7$
 $-14 = -4x$
 $\frac{-14}{-4} = \frac{-4x}{-4}$
 $x = \frac{7}{2}$ or $3\frac{1}{2}$

2pts c. $3y - 5 - 2y = y + 1$
 $y - 5 = y + 1$
 $-5 \neq 1$ NO solution will make the equation true.

6. Solve the equation and be sure to show all of your steps.



$x^2 + 2x + 2 - 1 = 1 - 4x + 6$
 $x^2 + 2x + 1 = 1 - 4x + 6$
 $x^2 + 2x + 1 - 1 = 1 - 4x + 6 - 1$
 $x^2 + 2x = 5 - 4x$
 $x^2 + 2x + 4x - 4x = 5 - 4x + 4x$
 $x^2 + 6x = 5$
 $x^2 + 6x + 9 = 5 + 9$
 $(x + 3)^2 = 14$
 $x + 3 = \pm\sqrt{14}$
 $x = -3 \pm \sqrt{14}$

7. Evaluate (solve) the following.

2pts a. For $3x - 8y = 12$, find y when $x = 4$.
 $12 - 8y = 12$
 $-12 - 8y = 12 - 12$
 $-8y = 0$
 $y = 0$

2pts b. For $a = -4x^2$, find a when $x = -3$.
 $a = -4(-3)^2$
 $a = -4(9)$
 $a = -36$

8. Solve for x in the following equations, using any method you like. Show your work and verify your solution.

2pts a. $3(x - 4) + 2 = 3(x - 1) - 7$
 $3x - 12 + 2 = 3x - 3 - 7$
 $3x - 10 = 3x - 10$ All #s/solutions

2pts b. $14 - 2(x + 3) = 5 - 2(x + 1)$
 $14 - 2x - 6 = 5 - 2x - 2$ No solution
 $-2x + 8 = -2x + 3$

2pts c. $14.3 + 6x = 3.9 + 2(x + 5.2)$
 $14.3 + 6x = 3.9 + 2x + 10.4$
 $14.3 + 6x = 14.3 + 2x$
 $x = 0$

9. Which expression below is greater? Demonstrate your reasoning by showing your steps. Using algebra tiles or drawing diagrams may be helpful.

3pts a. $4x - (2x + 4)$
 $4x - 2x - 4$
 $2x - 4$
 $-x$
 $x - 4$

b. $-6 + 5x - 3x - (-1 + x)$
 $-6 + 5x - 3x + 1 - x$
 $x - 5$
 $-x$
 -5

If $x = -1$,
 $A = -5$ and $B = 5$
 \dots

$x = 1$ equal
 $x = 0$ A
 $x = -3$ B
 Depends on x