Name_____ Date_____

ALGEBRA STUDY GUIDE… LAST DAY

1. Finish the number trick so the answer is 3.

Words	Choose a Number	What it looks like with algebra pieces	Algebra
1) Choose a special number			

4. Finish the number trick so the answer is n.

Words	Choose a Number	What it looks like with algebra pieces	Algebra
2) Choose a special number			

4. Use backtracking to solve for each of the following

a. $2(n+3)=16$

c. $3(7n \div 2)-8=34$

b. $(3n+6) \div 4=6$

d. $5(2n+4-3)=15$

1. Use the pattern below to follow the answering questions

Figure 1

Figure 2

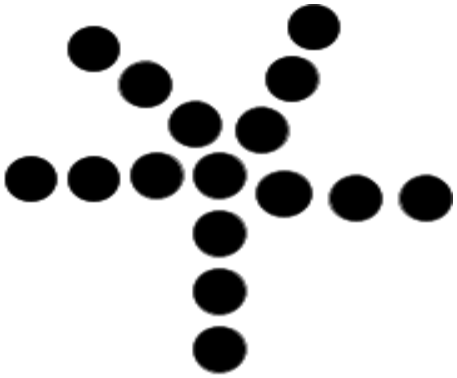


Figure 3

a. Create a table

b. Write a rule for the pattern

n	y
1	
2	
3	
4	
5	
6	
7	

c. Use your rule to find the number of dots in the following figure numbers:

12th figure:

50th figure:

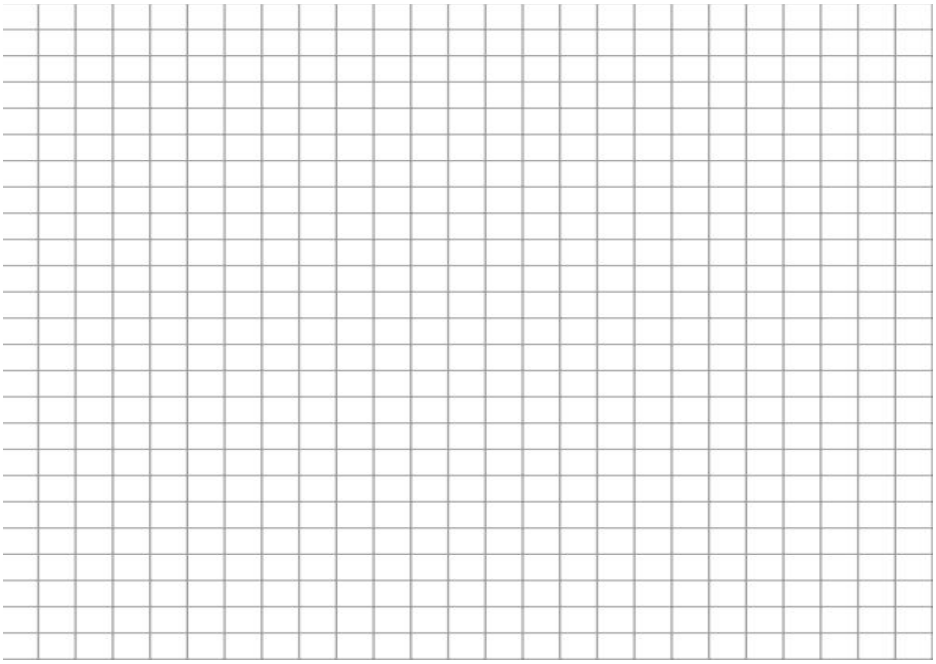
100th figure:

1. Susan wants to build a treehouse in her backyard and decides to hire The Perfect Tree.
    a. The Perfect tree charges a flat fee of $200 and then an additional $50 per hour of work. Create a table for The Perfect Tree.

Hours	0	1	2	3	4	5	6	7	8	9
$$$										

    b. Write an equation for The Perfect Tree's cost.

    c. On the Coordinate Graph below, graph both companies. DO NOT FORGET TO LABEL!



    d. Use either your graph, table or equation to figure out how much it would cost for the hours worked.
        i. 6.5 hours

        ii. 10 hours

    e. Use either your graph, table or equation to figure out how many hours they worked if they charged the following amounts
        i. $800

        ii. $425

2. For questions (a-d), write an equation for the story given.
    a. Margo is running a Cupcake stand. It cost her $40 to make all the cupcakes and she is selling each cupcake for $3.50. Write an equation that gives profit (p) for any number of cupcakes sold (c) .

        i. How much money would she make if she sold 50 cupcakes?

    b. A Ficus Tree starts at 2ft tall and grows an additional 3 feet each month. Write an equation that gives height (h) for any given month (m).

        i. How many months have passed if the tree was 11 ft tall?

    c. Francine is starting a bank account, each week she saves $5. Write an equation that gives total savings (s) for any given week (w).

        i. How much money does she have if she have been saving for 4 weeks?

d. Leslie is running a Lemonade stand. It cost her $30 to make all the lemonade and she is selling each cup for $0.50. Write an equation that gives profit (p) for any number of lemonades sold (c) .

    i. How much money would she make if she sold 200 lemonades?

e. A Palm Tree starts at 3ft tall and grows an additional 2 feet each month. Write an equation that gives height (h) for any given month (m).

    i. How many months have passed if the tree was 11 ft tall?

f. Frank is starting a bank account, each week she saves $8. Write an equation that gives total savings (s) for any given week (w).

    i. How much money does she have if she have been saving for 6 weeks?