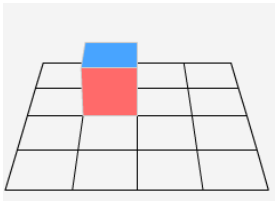
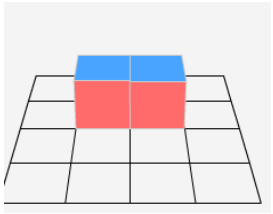
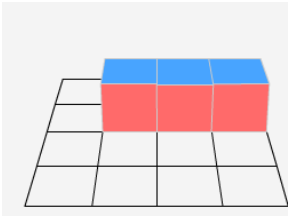
Warm Up
Grade 9

Remember Connecting Cubes

Given the following t-table
i) Complete the table
ii) Describe a the pattern
iii) Write the equations and Expression
iv) Use your equation to determine how many circles would be in figure 500.

x # of cubes	y # of faces exposed
1	6
2	10
3	14
4	18
5	22
⋮	
25	

+1 (4) +1 (4) +1 (4) +1

6)+4 10)+4 14)+4 18)+4

$y = \frac{\Delta y}{\Delta x} \times \pm\#$

$y = \frac{4}{1}x + 2$ equation

$4x + 2$ expression

$x = 25 \qquad y = ?$

$y = \frac{4}{1}x + 2$

$y = 4(25) + 2$

$y = 100 + 2$

$y = 102$

Warm Up

Grade 9

Given the following t-table
i) Complete the table
ii) Describe a the pattern
iii) Write the equations and Expression
iv) Use your equation to determine how many circles would be in figure 500.

x Figure #	y # Circles
2	7
4	12
6	17
8	22
10	27
12	32
⋮	
500	1252

+2 (5/2))+5

Pattern

Equations

$y = \frac{\Delta y}{\Delta x} x \pm \#$

$y = \frac{5}{2}x + 2$

Expression

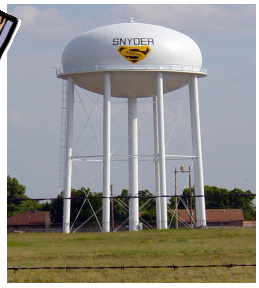
$\frac{5}{2}x + 2$

$y = ? \quad x = 500$

$y = \frac{5}{2}(500) + 2$

$y = 1250 + 2$

$y = 1252$



A large water tower holds 15000 liters of water, however during the winter the water tower was damaged and started to leak. This table shows the amount of water every hour after it sprung the leak. The level of water changes at a constant rate.

t Time (t hours)	A Amount (A Liters)
0	15 000
1	14 800
2	14 600
3	14 400
4	14 200

(-200) (-200) (-200) (-200)

+1 +1 +1 +1

-200 -200 -200 -200

$y = \frac{\Delta y}{\Delta x} x \pm \#$

$A = \frac{-200}{1} t + 15000$

$A = -200t + 15000$

iii) How much water in the water tower after 10 hours?

$A = -200t + 15000$

$A = -200(10) + 15000$

$= -2000 + 15000$

$= 13000\ L$

iv) When will the water tower be empty?

$A = -200t + 15000$

$0 = -200t + 15000$ (-15000 -15000)

$\frac{-15000}{-200} = \frac{-200t}{-200}$

$t = 75$

Try these

For n = 2, solve for each of the following

1) P = 5n +6

P=5(2) +6

p= 10+6

p= 16

2) K = 4n-1

K=4(2)-1

k=8-1

k= 7

3) W= 10n - 5

W= 10 (2)-5

W= 20-5

W= 15

For n = -5, solve for each of the following

1) P = 5n +6

P= 5(-5)+6

P=-25+6

p=-19

2) K = 4n-1

K=4(-5)-1

K=-20-1

K=-21

3) W= 10n - 5

W = 10(-5) -5

w= -50 - 5

W=-55

Class/Homework

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Questions

4ac,5ac,6,7,8,9,11,

Must Show ALL WORK