<u>NO QUIZ TODAY!</u>

I will check your 1.2 Homework as soon as I get attendance taken.

Get out your books and begin lesson 1.3 on page 13.

Dec 10-3:22 PM

1.3 Scott's Macho March
A Solidify Understanding Task

After looking in the mirror and feeling flabby, Scott decided that he really needs to get in shape. He joined a gym and added push-ups to his daily exercise routine. He started keeping track of the number of push-ups he completed each day in the bar graph below, with day one showing he completed three push-ups. After four days, Scott was certain he can continue this pattern of increasing the number of push-ups for at least a few months.
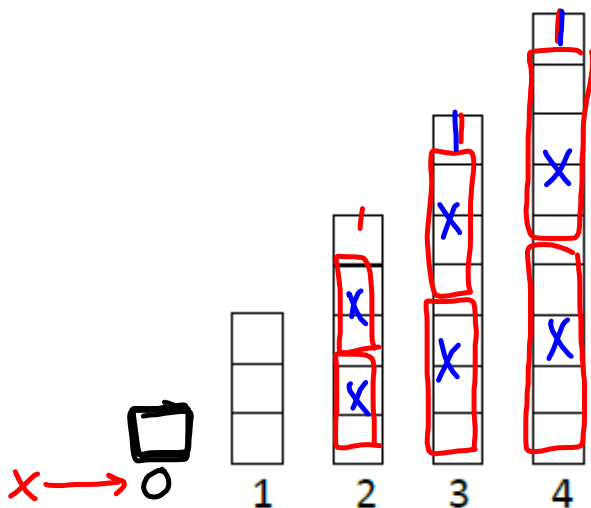
day	# P.U.	total
1	3	3
2	5	8
3	7	15
4	9	⋮

1. Model the number of push-ups Scott will complete on any given day. Include both explicit and recursive equations.

linear, $y = mx + b$

$y = 2x + 1$

Scott's gym is sponsoring a "Macho March" promotion. The goal of "Macho March" is to raise money for charity by doing push-ups. Scott has decided to participate and has sponsors that will donate money to the charity if he can do a total of at least 500 push-ups, and they will donate an additional $10 for every 100 push-ups he can do beyond that.

2. Estimate the total number of push-ups that Scott will do in a month if he continues to increase the number of push-ups he does each day in the pattern shown above.

3. How many push-ups will Scott have done after a week?

$$63 = 3+5+7+9+11+13+15$$
push ups

4. Model the total number of push-ups that Scott has completed on any given day during "Macho March". Include both recursive and explicit equations.
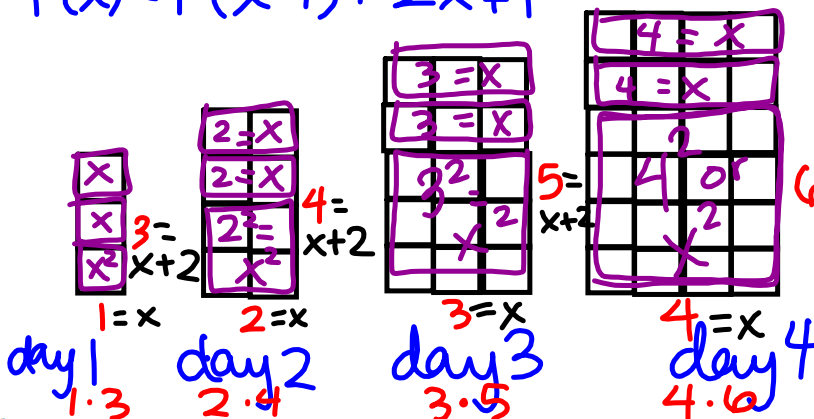
Explicit:
$$x(x+2) = x^2+2x$$

Recursive:
previous $+2x+1$
$$f(x) = f(x-1)+2x+1$$

day	# P.U.	total
1	3	3
2	5	8
3	7	15
4	9	24

linear
1st diff.

day 1   day 2   day 3   day 4
1·3   2·4   3·5   4·6

5. Will Scott meet his goal and earn the donation for the charity? Will he get a bonus? If so, how much? Explain.

Yes, 1023 push ups

$50 bonus

days	P.S	1M
1	3	3
2	5	8
3	7	15
4	9	24
5	11	35
6	13	48
7	15	63 ★
8	17	80
9	19	99
10	21	120
11	23	143
12	25	168
13	27	195
14	29	224
15	31	255
16	33	288
17	35	323
18	37	360
19	39	399
20	41	440
21	43	483
22	45	528
23	47	575
24	49	624
25	51	675
26	53	728
27	55	783
28	57	840
29	59	899
30	61	960
31	63	1023

Homework/Classwork

Finish 1.3

$f(0) = -5$ $(0, -5)$

$f(n+1) = f(n) + 8$

$f(0+1) = f(0) + 8$

$\quad f(1) = -5 + 8$

$\quad f(1) = 3$ $(1, 3)$

$f(2) = 3 + 8 = 11$ $(2, 11)$

$f(3) = 11 + 8 = 19$ $(3, 19)$

$f(4) = 19 + 8 = 27$ $(4, 27)$

$f(5) = 27 + 8 = 35$ $(5, 35)$

Oct 21-8:47 AM