

Get out your books and work on finishing 1.2 with your group.

1.2 I Rule!

A Solidify Understanding Task

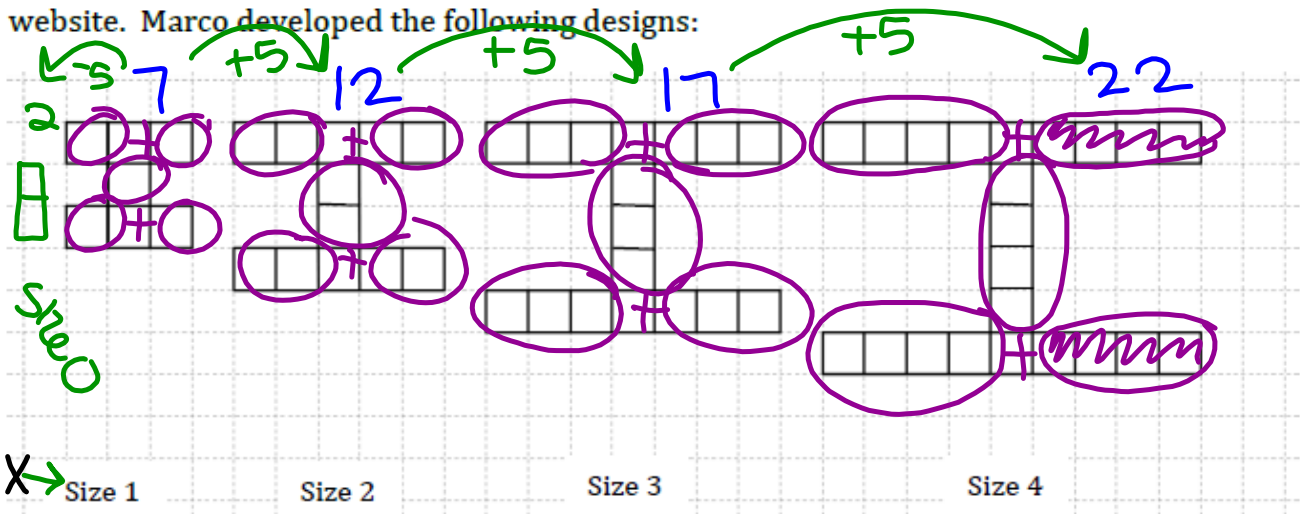


Marco has started a new blog about sports at Imagination High School (mascot: the fighting unicorns) that he has decided to call "I Site". He created a logo for the web site that looks like this:



linear
 $y = mx + b$

He is working on creating the logo in various sizes to be placed on different pages on the website. Marco developed the following designs:



1. How many squares will be needed to create the size 100 logo?

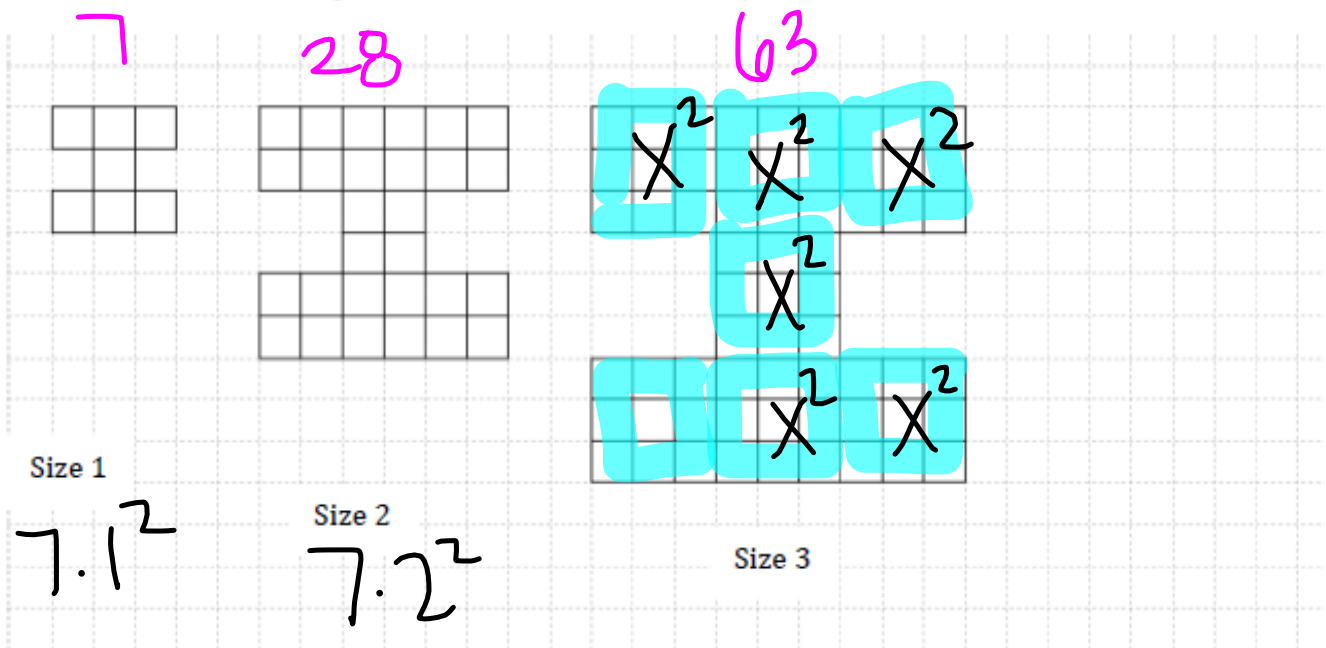
502 squares
 $5(100) + 2$

2. Develop a mathematical model for the number of squares in the logo for size n .

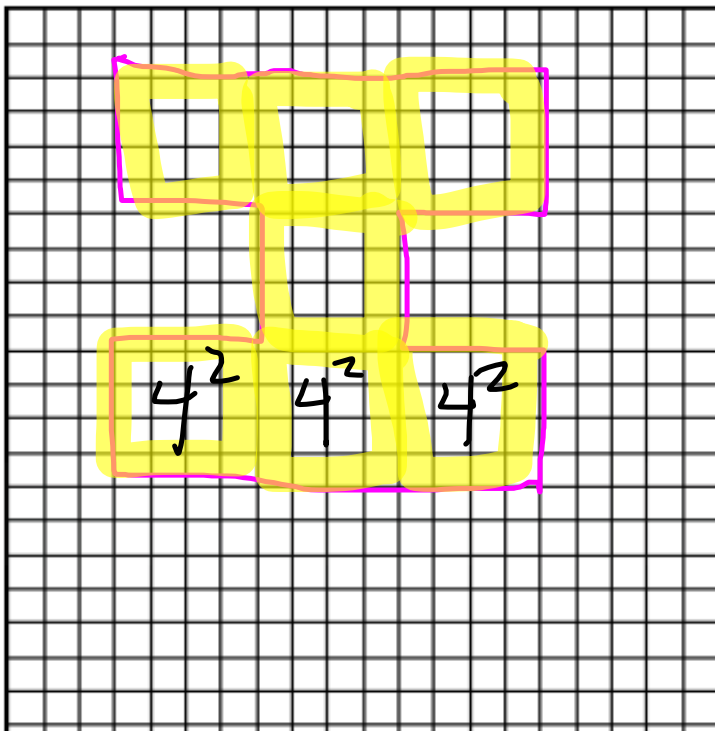
$$y = 5x + 2$$

$$f(x) = 5x + 2$$

Marco decides to experiment with making his logo "blockier" so that it looks stronger. Here's what he came up with:



3. Assuming that Marco continues with the pattern as it has begun, draw the next figure, size 4, and find the number of blocks in the figure.



size	# of blocks
1	7
2	28
3	63
4	112

$21 \rightarrow 14$
 $35 \rightarrow 14$
 49

Quadratic

4. Develop a mathematical model for the number of blocks in a logo of size n .

$$7x^2$$

5. Compare the models that you developed for the first set of logos to the second set of logos. In what ways are they similar? In what ways are they different?

Questions on 1.2 HW?

sec2_mod1_quadfun_se_813113 (20).pdf Adobe Acrobat Reader DC

File Edit View Window Help

Home Tools sec2_mod1_quadfu... x

10 / 39 150%

neauy

Topic: Adding and multiplying binomials © 2013 www.flickr.com/photos/lwr/3170

Simplify the following expressions

1a. $(2x + 7) + (5x + 3) = 7x + 10$

2a. $(6x - 1) + (x - 10)$

3a. $(8x + 3) + (3x - 4)$

4a. $(-5x + 2) + (7x - 13)$

5a. $(12x + 3) + (-4x + 3)$

6. $(x + 5)(x - 5)$

7. Compare your answers in 1 - 5 *part a* to your answers in #1 - #5 *part b* respectively. Look pattern in the answers. How are they different?

b. $(2x + 7)(5x + 3)$
 $2x \cdot 5x + 2x \cdot 3 + 7 \cdot 5x + 7 \cdot 3 =$
 $10x^2 + 6x + 35x + 21 =$
 $10x^2 + 41x + 21$

b. $(8x + 3)(3x - 4)$

b. $(-5x + 2)(7x - 13)$

b. $(12x + 3)(-4x + 3)$

8.50 x 11.00 in

sec2_mod1_quadfun_se_813113 (20).pdf - Adobe Acrobat Reader DC

File Edit View Window Help


Home Tools sec2_mod1_quadfu... x

11 / 39 150%

Topic: Comparing area and perimeter

Calculate the *perimeter* and the *area* of the figures below. (Your answers will contain a variable.)

10. x cm




x cm

a. Perimeter: $x+x+x+x = 4x$ cm

b. Area: $x \cdot x = x^2$ cm

11. $(x + 1)$ in

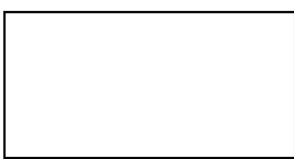


$(x + 1)$ in

a. Perimeter: $4(x+1) = 4x+4$ in

b. Area: $(x+1)(x+1) = x^2+x+x+1 = x^2+2x+1$

12. $(a + 5)$ ft

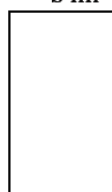


$(b + 3)$ ft

a. Perimeter: _____

b. Area: $(a+5)(b+3) = ab + 3a + 5b + 15$ ft

13. b mi



a mi

a. Perimeter: _____

b. Area: _____

sec2_mod1_quadfun_se_813113 (20).pdf - Adobe Acrobat Reader DC

File Edit View Window Help

Home Tools sec2_mod1_quadfu... x

12 / 39 150%

17. $15abc^2$ and $25a^3bc$

18. $12x^5y$ and $32x^4y^3m$

19. $17pqr$ and $51pqr$

Handwritten notes for 17: $3 \overset{\wedge}{5} \overset{\wedge}{5}$ and $5abc$

20. $7x^2$ and $21x$

21. $6x^2$, $18x$, and -12

22. $4x^2$ and $9x$

23. $11x^2y^2$, $33x^2y$, and $3xy^2$

24. $16a^2b$, $24ab$, and $16b$

25. $49s^2t^2$ and $36s^2t^2$

Handwritten notes for 23: $1 \overset{\wedge}{11} 3 \overset{\wedge}{11} 1 \overset{\wedge}{3}$ and $1xy$ or xy

8.50 x 11.00 in

QUIZ #1: Patterns

Determine if each pattern below is linear, exponential, or quadratic.

1)

x	$f(x)$
1	1
2	3
3	9
4	27

2)

x	$f(x)$
1	5
2	6
3	9
4	14

3)

x	$f(x)$
1	2
2	6
3	10
4	14