Speedy Squares

Connecting cubes at a steady pace, how long will it take to build a line 676 cubes long?	Connecting cubes at a stea	dy pace, how long will	it take to build a line	e 676 cubes long?
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Estimate:

Too low: Too High: Just Right:

Collect some data. Build a line of 5, 6, 7, 8, 9 and 10 squares. Time to see how long each one takes.

28 26

# of Cubes	Time (s)
5	
6	
7	
8	
9	
10	



What is the independent variable?

What is the dependent variable?

Create a scatter plot of your data.

Does the data look linear or quadratic? Explain.

Determine the equation that models your data.

Use your equation to determine how long it would take to put together 676 cubes. Show your work.

How long would it take you to build	d a 26 by 26 square or	ut of linking cube	s?		
Estimate:					
Too low:	Too High:		Just Right:		
Build squares out of cubes and ke	ep track how long it ta	kes.			
Side Length Time (s)	170				
	160				
	150				
	140				
	130				
	120				
	110				
	90				
	- 80				
	70				
	60				
What is the independent variable?					
vinat is the independent variable:	40				
	30				
What is the dependent variable?	20				
	10				
Create a scatter plot of your data.	0	1 2	3 4	5 6 7	8
, ,		T	Ĭ	T T T T T T T T T T T T T T T T T T T	Ĭ
Does the data look linear or quadr	atic? Explain.				
Determine the equation that mode	els your data.				
Use your equation to determine he	ow long it would take t	o build a 26 bv 20	6 square. Show vo	our work.	
- y					
How does your answer compare t	o the time to assemble	e 676 squares on	nage 12 le thie w	vhat vou would ha	ve
Tion does your arrower compare t		, or o oqual co on	page i. io iiio w	mai you would na	• •

expected? Explain.

Next start by building a rectangle with a width of 2 cubes and a length of 1 cube. Consider this step 1. For each step double the length of the previous rectangle.

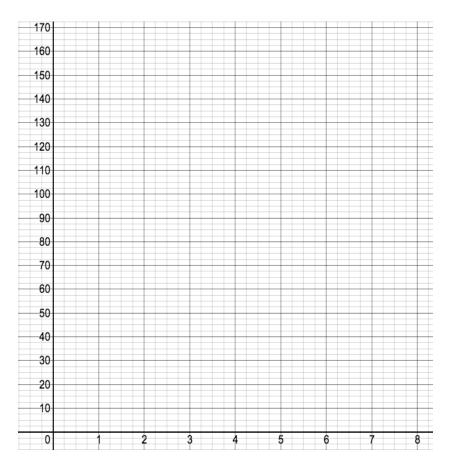
Step #	Time (s)
1	
2	
3	
4	
5	

What is the independent variable?

What is the dependent variable?

Create a scatter plot of your data.

Does the data look linear or quadratic or neither? How can you tell?



Determine the equation that models your data.

Use your equation to determine how long it would take to build step 43.