

Greenwich Country Day School

ROBERT KAPLINSKY



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Sinkhole Dimensions

- Slate: “A sinkhole, 65 feet across and 100 feet deep”



How To Fix a Giant Sinkhole

The cement method vs. the graded-filter technique.



18

0

By Brian Palmer



A sinkhole in Guatamala

It's not clear whether cement is the best option, however. A 6,500-cubic-foot wad of concrete may serve to concentrate water runoff in other areas, leading to more sinkholes. Many engineers prefer the **graded-filter technique**, in which the hole is filled with a layer of boulders, then a layer of smaller rocks, and, finally, a layer of gravel. This fills the hole, more or less, while permitting water to drain through the area.

Reply

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2010 Guatemalan Sinkhole

Kaplinsky, Robert

To:



Wednesday, February 06, 2013 1:39 PM

Hi Brian,

I am using your "How to Fix a Giant Sinkhole" article for a math lesson on volume of a cylinder. I have one question for you. You mentioned.

"It's not clear whether cement is the best option, however. A 6,500-cubic-foot wad of concrete may serve to concentrate water runoff in other areas, leading to more sinkholes."

Can you please tell me where you got 6500 cubic feet from? Did you do 65×100 ? We get something closer to 342,000 cubic feet.

Thanks,
Robert

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Re: 2010 Guatemalan Sinkhole

Brian Palmer

To: [Kaplinsky, Robert](#)

Wednesday, February 06, 2013 2:01 PM

Apparently you picked the wrong article for a math lesson! I apologize. It appears you are correct. I can't find anything in my notes to save myself-- I think I just screwed up. Dunce cap for me.

Open Middle

- Use the whole numbers 1 through 9 only one time each to find the largest possible values for the sum of x and y .

$$\square x - \square = \square$$

$$\square y + \square = \square$$

Adding Decimals

Use the numbers 1 through 9, exactly one time each, to fill in the boxes and make three decimals whose sum is as close to 1 as possible.

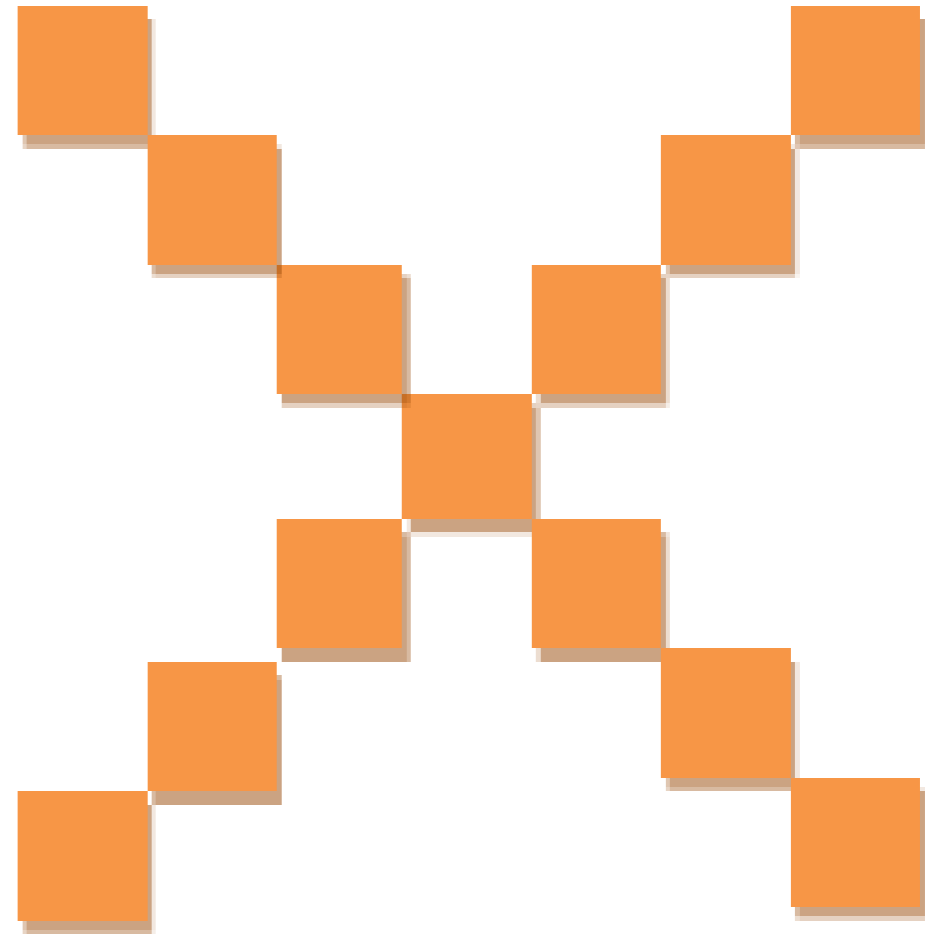
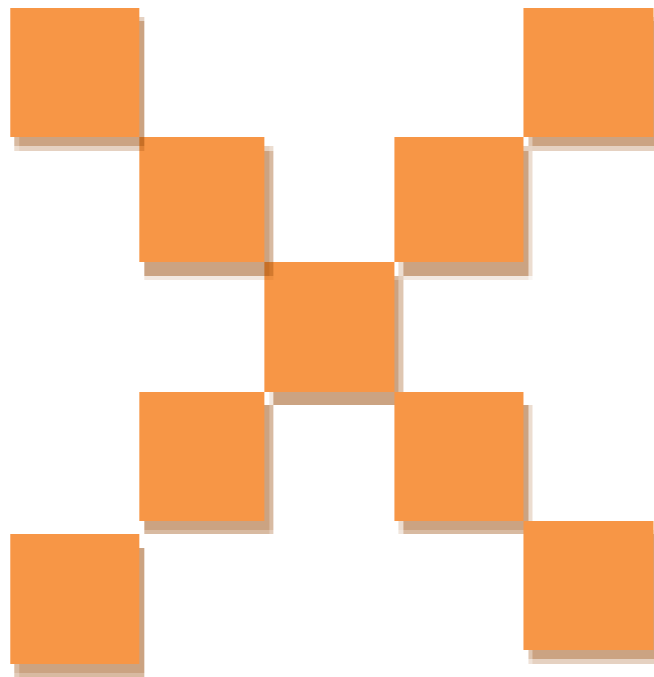
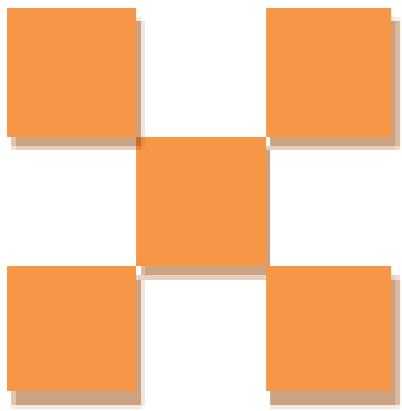
$$\begin{array}{r} 0.\square\square\square \\ 0.\square\square\square \\ + 0.\square\square\square \\ \hline \end{array}$$

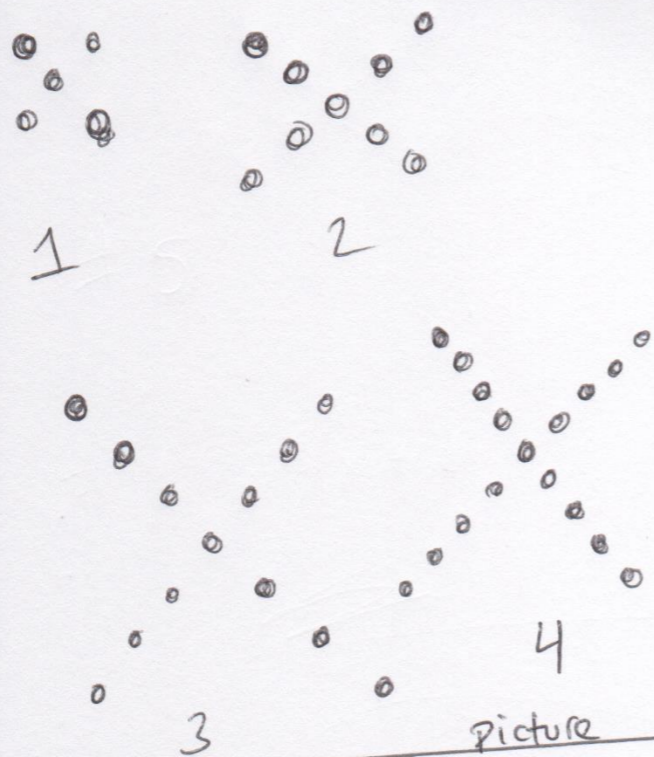
pictures

numbers

symbols

words





| step | squares |
|------|---------|
| 1 | 5 |
| 2 | 9 |
| 3 | 13 |
| 4 | 17 |

numbers

Each time we add another square to each end of the X. That gives us 4 more squares each time. In step 0, there is just the 1 square in the middle. That is where the "+1" comes from. The "4x" comes from 4 squares being added each step.

$$y = 4x + 1$$

y = total squares

x = step #

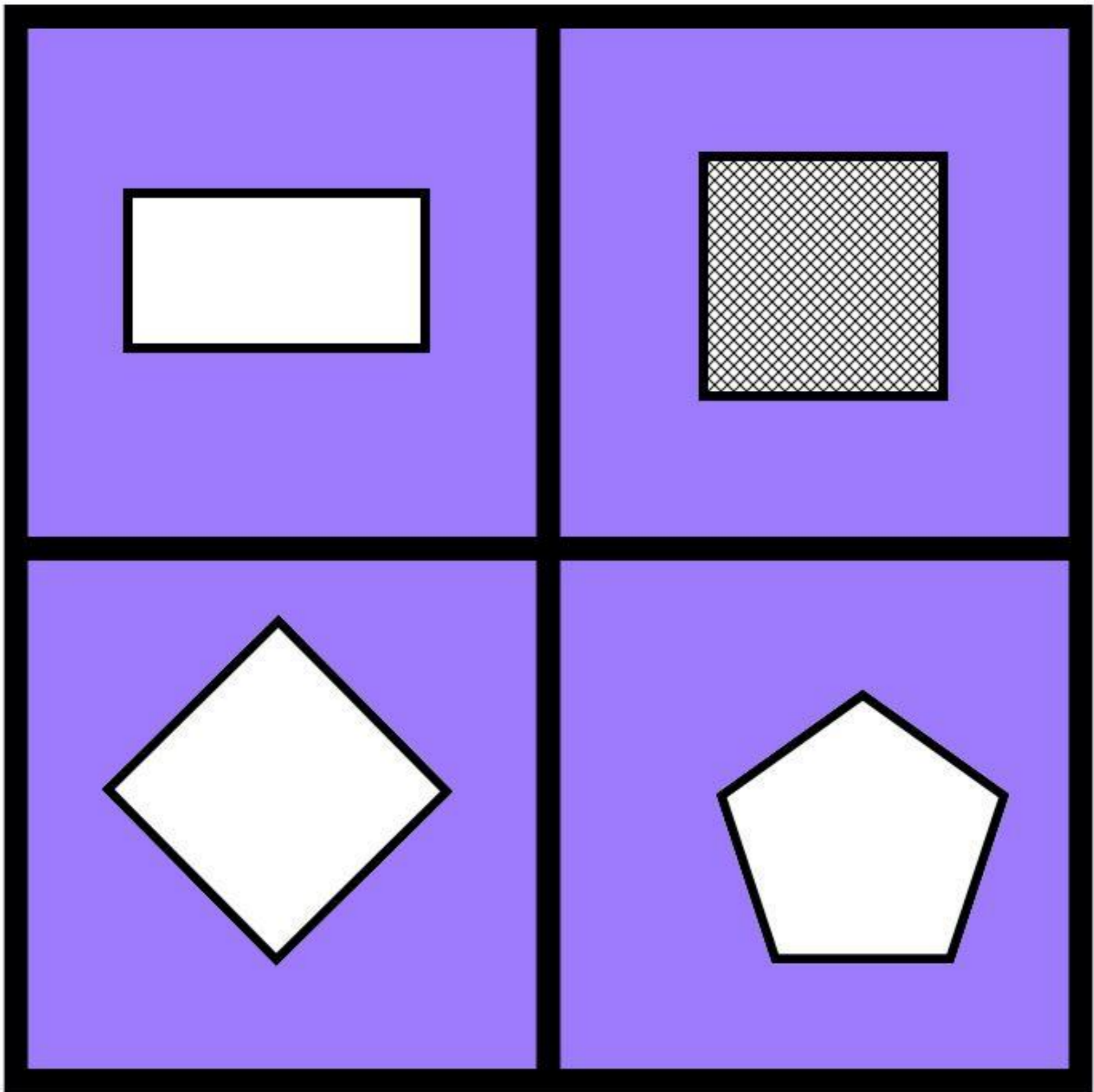
$$y = 4(3) + 1$$

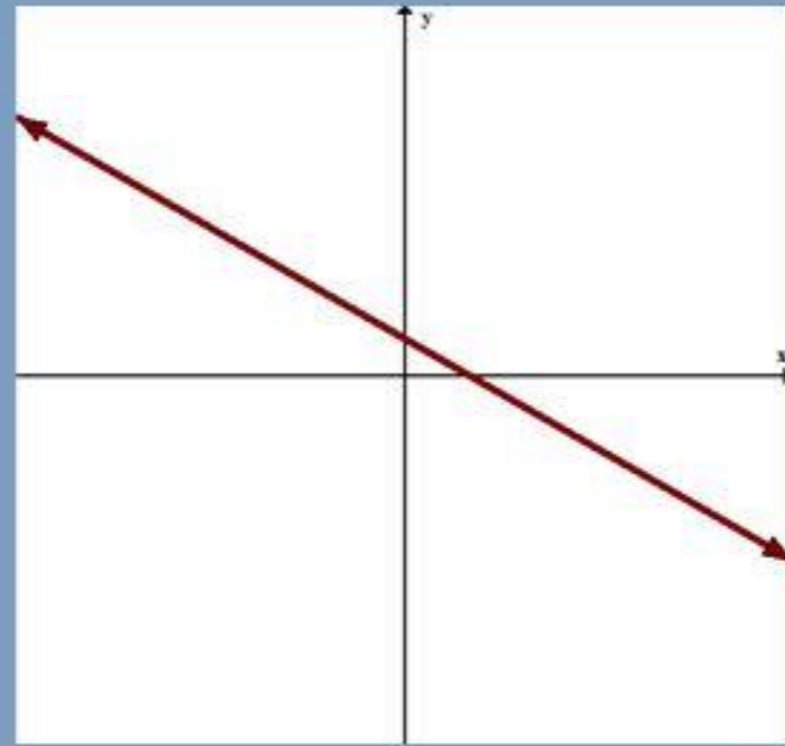
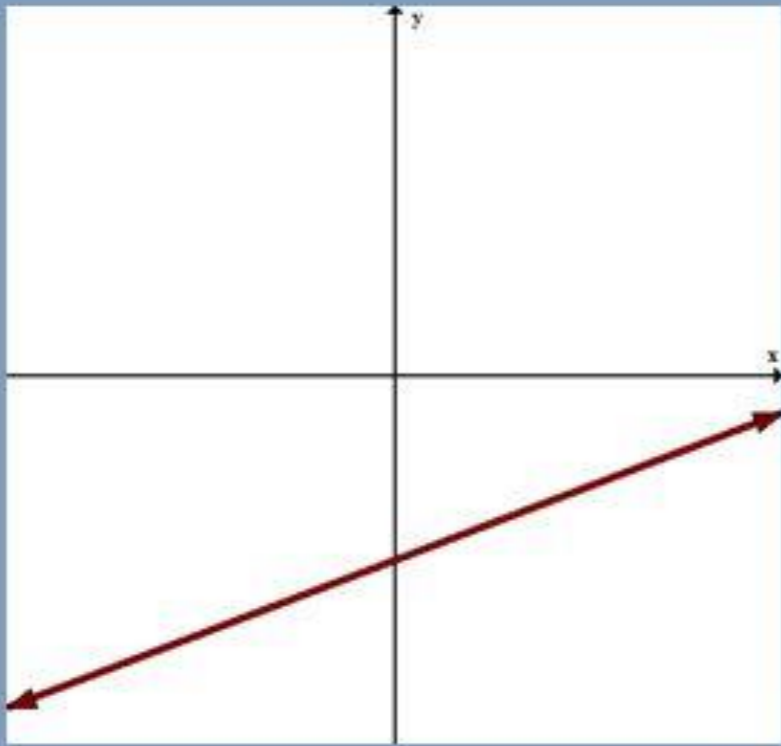
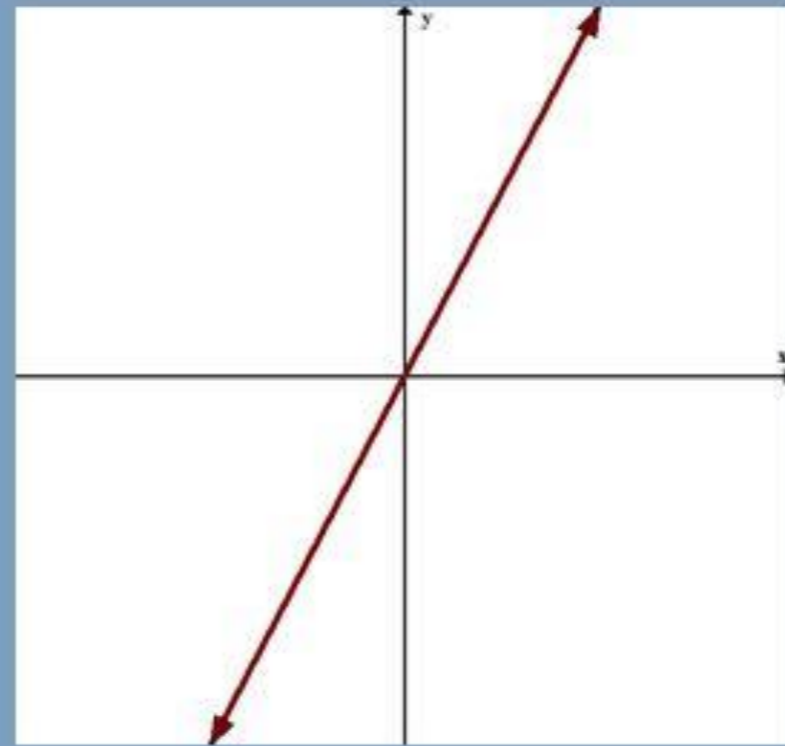
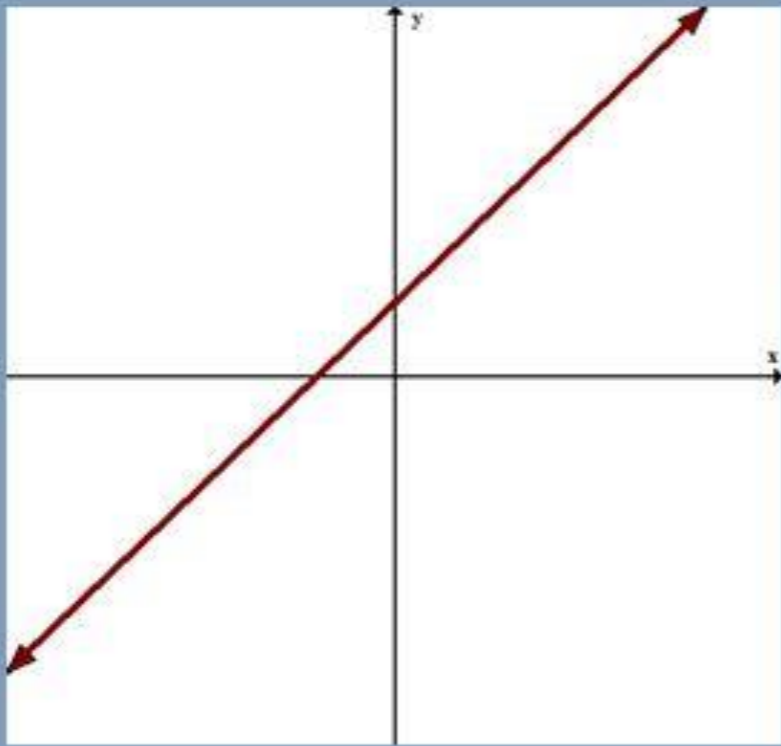
$$y = 12 + 1$$

$$y = 13$$

symbols

Words





$$y = 4x$$

$$y = x + 7$$

$$y = -2x + 4$$

$$y = 3x - 1$$

Contact

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