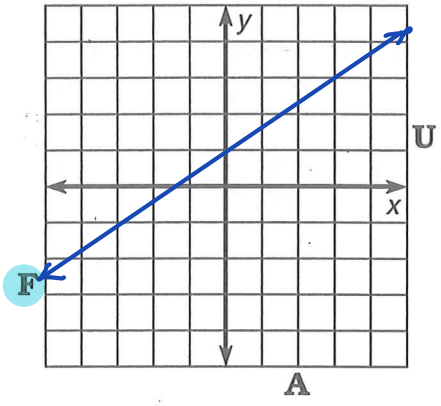
KEY

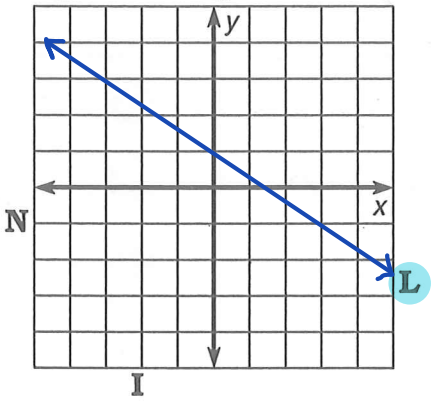
What Happened to the Little Boy Who Swallowed a Silver Dollar?

Use the slope and y-intercept to graph each equation. The graph, if extended, will cross a letter outside the grid. Look for this letter in the string of letters at the bottom of the page and cross it out each time it appears. When you finish, write the remaining letters in the rectangle at the bottom of the page.

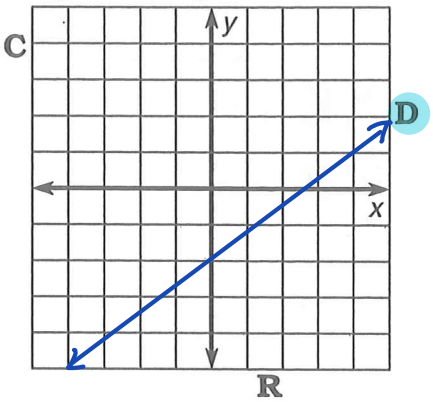
1 $y = \frac{2}{3}x + 1$



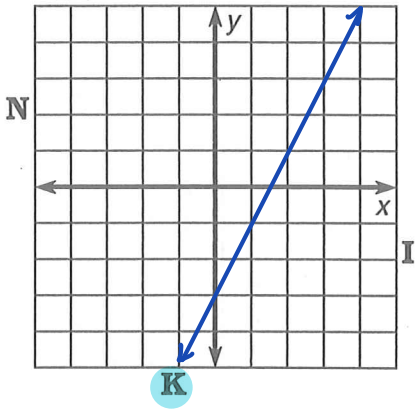
2 $y = -\frac{2}{3}x + 1$



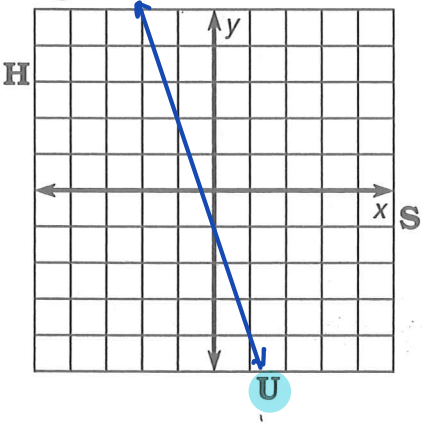
3 $y = \frac{3}{4}x - 2$



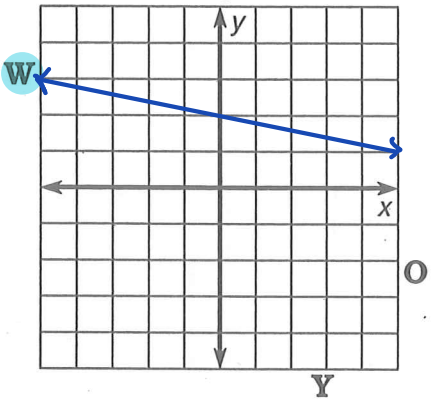
4 $y = 2x - 3$



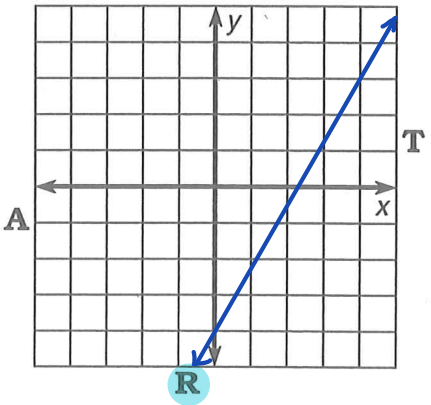
5 $y = -3x - 1$



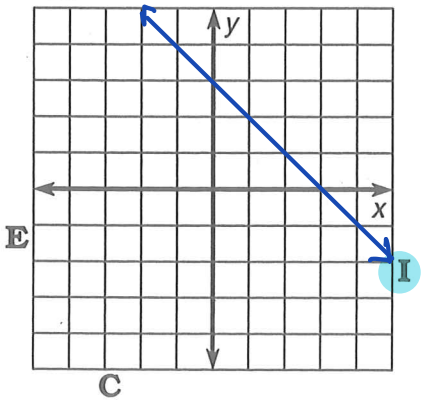
6 $y = -\frac{1}{5}x + 2$



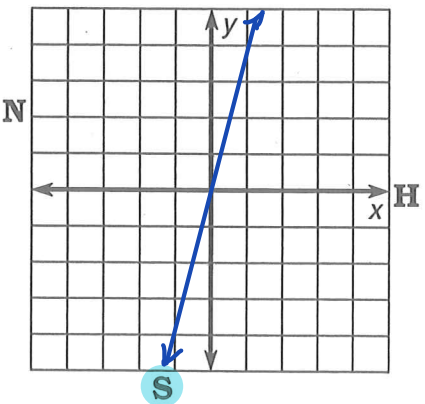
7 $y = \frac{7}{4}x - 4$



8 $y = -x + 3$



9 $y = 4x$



R I N D S O C K W H I F R A N U L I G E Y W E D S T

answer to puzzle: NO CHANGE YET

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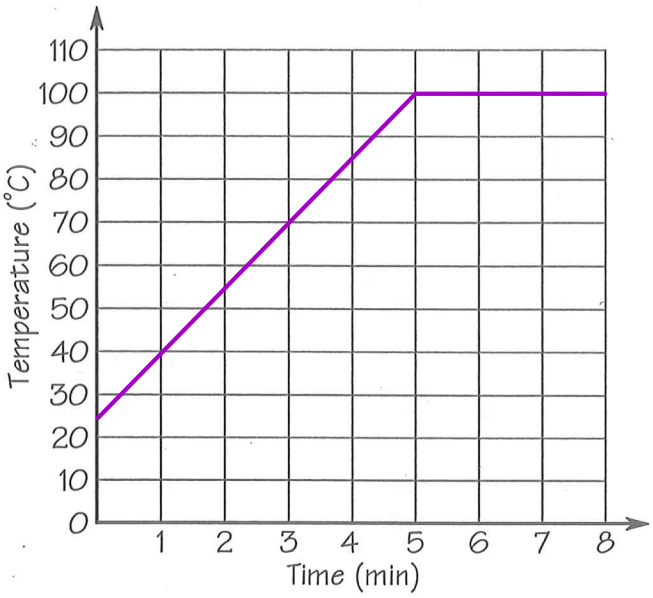
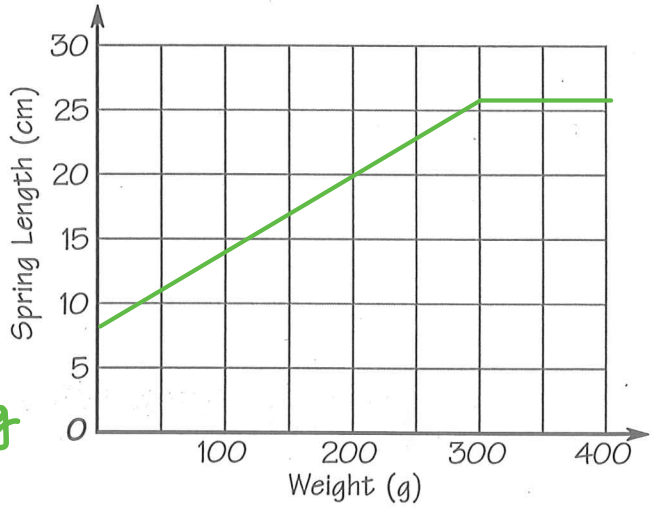
Boiling Water. A pot of water at a temperature of 25°C is placed on a hot burner. The temperature of the water increases at a rate of 15° per minute until it boils at 100°C. The water continues boiling at this temperature.



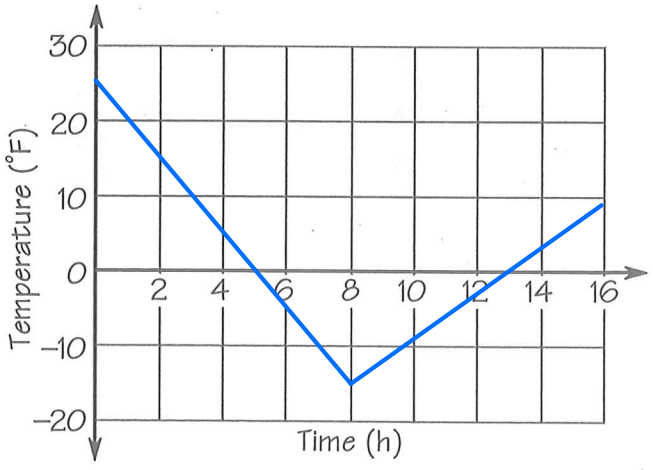
1. Complete the graph to show the relationship between water temperature (y) and time since the water was placed on the burner (x).
2. How long does it take for the water to boil? 5 minutes
3. What is the slope of the graph for temperatures between 25°C and 100°C? 15 degrees/minute
4. What is the slope of the graph after the temperature reaches 100°C? slope = 0
5. Write an equation for the part of the graph that has positive slope. $y = 15x + 25$

Stretching a Spring. A spring is 8 cm long with no weight suspended from it. For each 50-gram weight, the spring stretches 3 cm until it reaches a maximum length of 26 cm. The spring remains at this length even if more weights are added.



6. Complete the graph to show the relationship between spring length (y) and weight that is added (x).
7. How much weight must be added for the spring to reach maximum length? 300 g
8. What is the slope of the graph for spring lengths between 8 cm and 26 cm? 0.06 cm/g
9. Write an equation for the part of the graph that has positive slope. $y = 0.06x + 8$

Freezing Quickly. At 10 P.M. the temperature in Quickfrozen was 25°F. The temperature dropped at a rate of 5° per hour for 8 hours. Then, for the next 8 hours, the temperature rose at a rate of 3° per hour.



10. Complete the graph to show the relationship between temperature (y) and number of hours since 10 P.M. (x).
11. What is the slope of the graph when the temperature is falling? −5 When rising? +3
12. Write an equation for the part of the graph that has negative slope. $y = -5x + 25$
13. Give the y- and x-intercepts of the graph. (0, 25) (5, 0)