

Linear functions worksheet

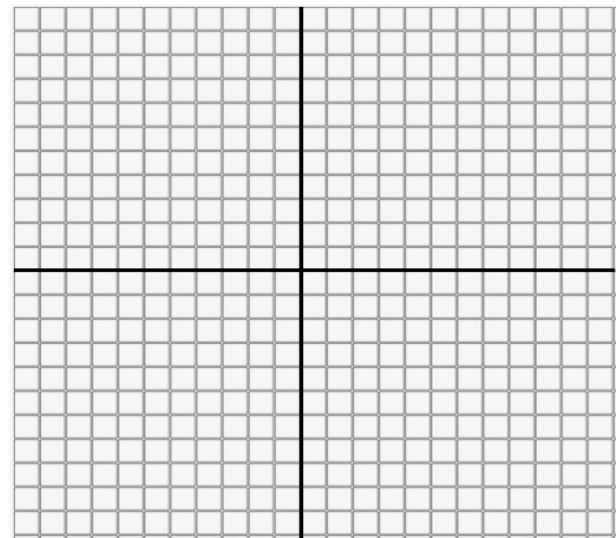
1. A members-only speaker series allows people to join for \$5 and then pay \$4 for every event attended. Write an equation that shows the relationship between the number of events attended a and the total cost c .

2. Andy is planning a birthday party for his son. The cost of the party is represented by the equation: $40P - 3C + 800 = 0$, where P is the number of people attending and C is the total cost of the party.

i) Graph the cost versus the number of people

ii) What is the cost of renting the hall?

iii) What is the cost per person?



3. A chemical plant was found to be discharging toxic waste into a waterway. The state in which the chemical plant was located fined the company \$125,000 plus \$1,000 per day for each day on which the company continued to violate water pollution regulation.

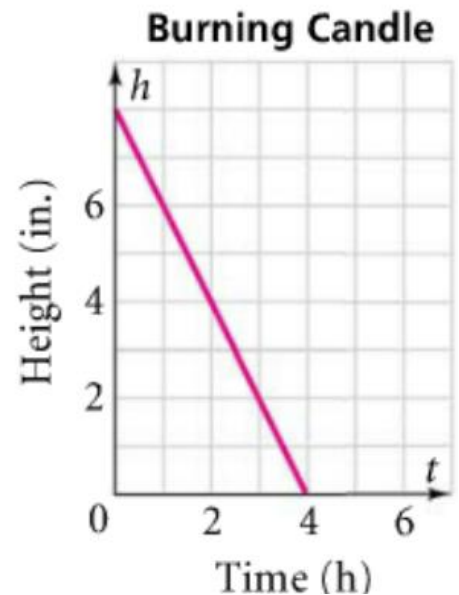
Express the total fine as a function of the number of days in which the company remains in non-compliance.

4. The graph models the height in inches of a burning candle as the time, in hours, goes by.

a) What is the slope of the line?

b) What is the y-intercept of the line?

c) Write a linear function for the graph, where x represents the time in hours and y represents the height in inches.



d) Another 8-inch candle burns at a rate of 3 inches/hour. How would the graph for that candle compare with the one shown here?

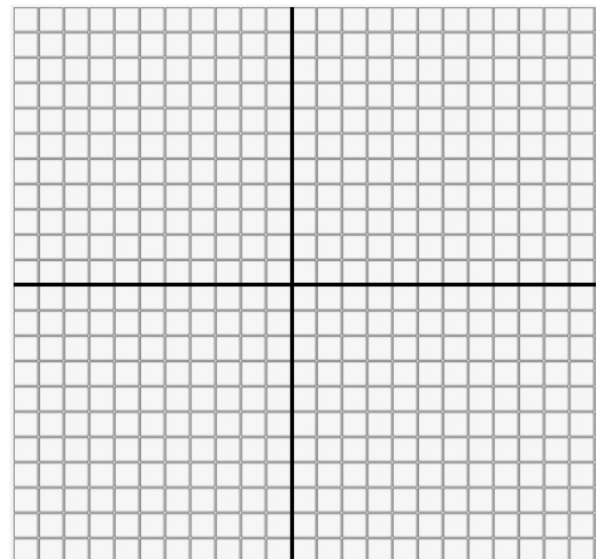
5. Jabar will be charged an \$8 fee to join the local swimming pool. Each time Jabar goes swimming, he'll be charged an additional \$2.

a) What will it cost Jabar if he swims 1 time? ____ 2 times? ____ 10 times? ____

b) Write an equation (linear function) that models the situation.

Let x represent the number of times Jabar goes to the pool. Let y represent the total amount of money Jabar spends by going to the pool x times.

c) Graph the equation that was created in part b. Label the x and y -axis with appropriate numbers, as well as give titles to x and y -axis.



d) What is the slope for this equation and graph? _____

e) What is the y-intercept for this equation and graph? _____

6. Taylor and James each get summer jobs to save money. The amount of money Taylor has is given by the equation $T = 5(3 + x)$,
Where x is the number of hours she spends working.

The amount of money James has is shown in the graph below.

Who started with more money?

