

### Answer on Question #55267 – Math – Calculus

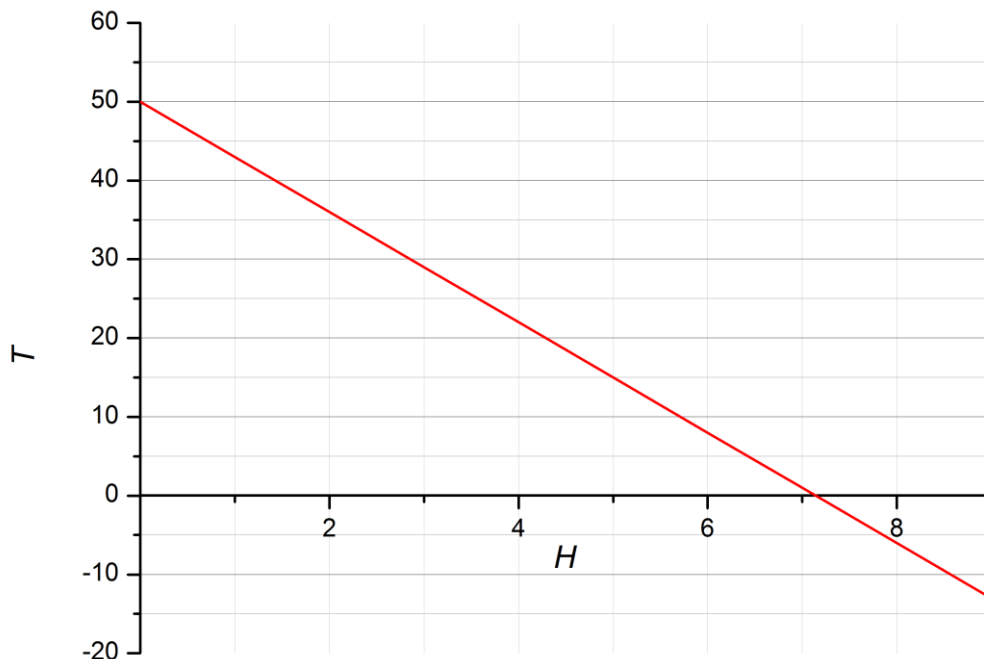
Scientists are studying the temperature on a distant planet. They find that the surface temperature at one location is  $50^{\circ}$  Celsius. They also find that the temperature decreases by  $7^{\circ}$  Celsius for each kilometer you go up from the surface. Let  $T$  represent the temperature (in Celsius), and let  $H$  be the height above the surface (in kilometers). Write an equation relating  $T$  to  $H$ , and then graph your equation.

#### Solution

From the statement of the problem we can see that a drop of temperature equals  $7H$ . So the equation relating  $T$  to  $H$  is the following:

$$T = (50 - 7H) \text{ }^{\circ}\text{C.} \quad (1)$$

The graph of (1) is given below:



**Answer:**  $T = (50 - 7H) \text{ }^{\circ}\text{C.}$