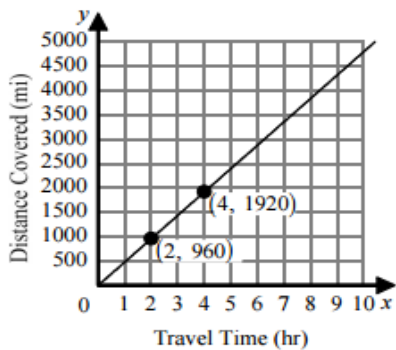


Objective 72

Determine the rate of change or initial value of a function given a graph, a table, or two (x, y) values.

The graph shows the hours a plane has been flying and the distance covered. If flying at a constant rate, what is the airplane's speed?



- [A] 490 mph [B] 240 mph [C] 480 mph [D] 288 mph

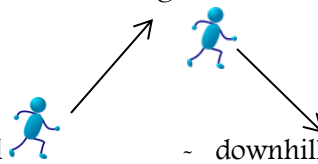
Step 1- Find the coordinates of two of the points.

(2, 960), (4, 1920)

Step 2- Use the slope intercept formula to determine the slope, or rate of change.

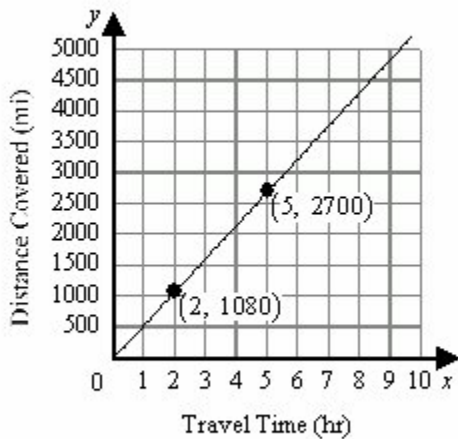
$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{1920 - 960}{4 - 2} = \frac{960}{2} = 480$$

Step 3- Check to make sure slope is negative or positive. + uphill



Guided Practice:

The graph shows the hours a plane has been flying and the distance covered. If flying at a constant rate, what is the airplane's speed?



- [A] 540 mph [B] 550 mph [C] 378 mph [D] 270 mph

A driver set his car's cruise control once he was a certain distance from his home. Using cruise control made his car travel at a constant speed. The ordered pairs $(2, 159)$ and $(2.5, 189)$ represent the distance from home while using cruise control. The x -coordinates represent the number of hours spent using cruise control. The y -coordinates represent the distance from home in miles. What was the driver's distance from home when he turned on the cruise control?

- [A] 30 mi [B] 79.5 mi [C] 39 mi [D] 99 mi

A driver set his car's cruise control once he was a certain distance from his home. Using cruise control made his car travel at a constant speed. The table shows the number of hours spent using cruise control and his distance from home. What was the driver's distance from home when he turned on the cruise control?

Time Driven With Cruise Control (hr)	Distance from Home (mi)
2.0	186
2.5	221
3.0	256

- [A] 116 mi [B] 35 mi [C] 93 mi [D] 46 mi

Independent Practice:

The graph shows the hours a plane has been flying and the distance covered. If flying at a constant rate, what is the airplane's speed?

