

Name SOLUTIONS

14

Graphing Average Speed

Consider yourself taking a 5 hour ROCKET RIDE.

Estimate your average speed for the 5 hours. Record your estimate in miles per hour where indicated. Then fill in the chart below.

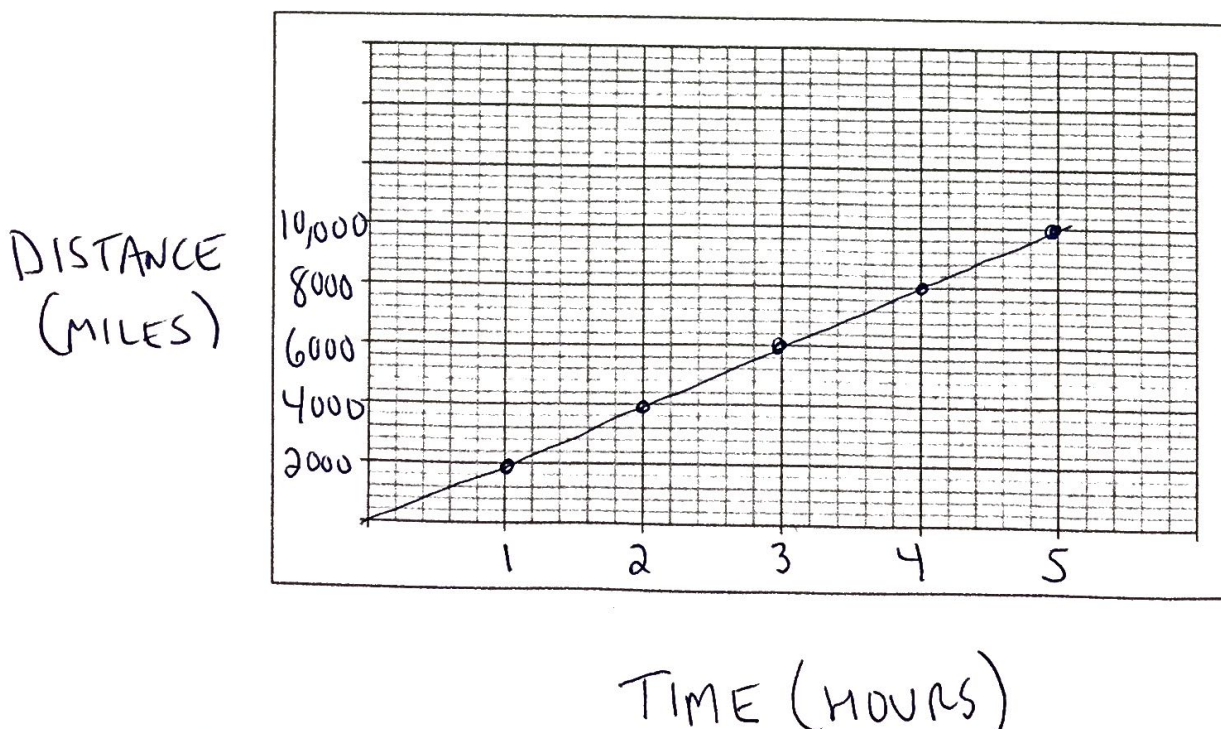
Estimated average speed = 2000 mph

$$d = vt$$
$$d = 2000(t)$$

x		y	
Time (Hours)		Distance (Miles)	
0	x_1	0	y_1
1	x_2	2000	y_2
2		4000	
3		6000	
4		8000	
5		10,000	

On the graph below, plot these data points. Add a trendline. Give the graph a title. Label the horizontal and vertical axis. Answer the questions on the next page.

DISTANCE VS TIME



1) Where could you be located after 5 hours?

10,000 MILES OUT IN SPACE

2) What is the slope of the trendline?

$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{2000 - 0}{1 - 0} = \boxed{2000 \text{ mph}}$$

3) What does the slope of the trendline represent?

SPEED

4) Give an equation for the trendline.

$$y = mx + b$$

$$d = 2000t$$

5. What factors will affect the average speed?

space debris

meteors

guardians of the galaxy

6. Given your estimate for average speed, what will be your distance after 7 hours?

$$d = vt$$

$$d = (2000)(7) = 14,000 \text{ miles}$$