

3.4 Rates

Need To Know



- Understanding Rate of Change
- Visualizing Rate of Change

Rate of Change



Definition:

A rate is a ratio that indicates how two quantities change with respect to each other.

Examples:

1. The virus is growing 2000 cells every minute.
2. My car is getting 25 miles per gallon.
3. Tristan Gale went 2.2 miles in 1 min 45.11 sec to win the gold medal in skeleton. (see <http://www.olympics.com>)

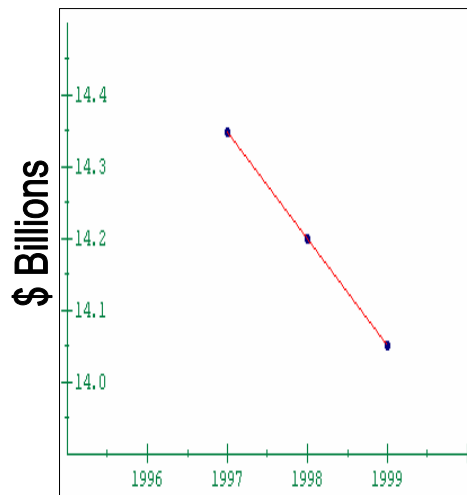
Women's Skeleton			COMPLETE RESULTS
MEDAL MEDAILLE	NATION PAYS	NAME NOM	RESULT RESULTAT
		GALE, Tristan	1:45.11

Calculating Rates

The company car you took on a business trip read 25,398 miles at the start and 25,719 miles at the end of the trip. You paid \$16.50 for 13 gallons to fill the car back up. What is the rate of gas consumption in miles per gallon?

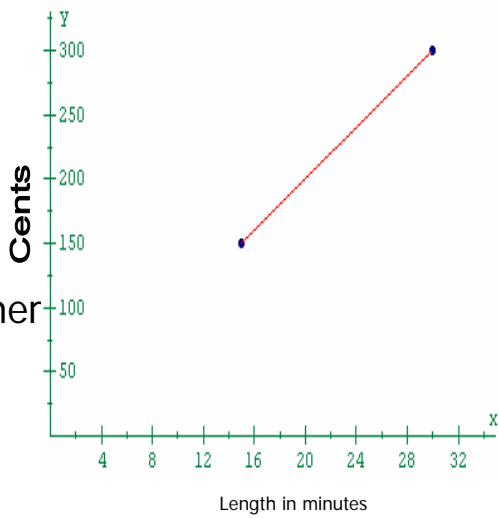
Visualizing Rates

Data regarding the spending for NASA is represented in the chart. At what rate is the amount spent on NASA changing?



Visualizing Rates

The following graph shows data from a recent AT&T phone call between Burlington, VT and Austin TX. At what rate was the customer being billed?



end