

The table gives the annual revenue from Verizon's wireless business and the number of wireless connections that yields this revenue.

Year	Wireless Revenue (billions \$)	Wireless Connections (millions)
2006	38.0	59.1
2007	43.9	65.7
2008	49.3	72.1
2009	60.3	96.5
2010	63.4	102.2
2011	70.2	107.8

- a. Find the average rate of change of wireless revenue with respect to time from 2006 to 2008.

Write the appropriate difference in the top and bottom of the difference quotient

Write the appropriate units for the top and bottom of the difference quotient

$$\frac{\Delta \text{Revenue}}{\Delta \text{time}} = \frac{\boxed{}}{\boxed{}}$$

$$= \boxed{} \text{ per } \boxed{}$$

Simplify the quotient

- b. Find the average rate of change of wireless connections with respect to time from 2006 to 2008.

$$\frac{\Delta \text{Connections}}{\Delta \text{time}} = \frac{\boxed{}}{\boxed{}} = \frac{\boxed{}}{\boxed{}}$$
$$= \boxed{} \text{ per } \boxed{}$$

- c. Find the average rate of change of wireless revenue with respect to wireless connections from 2006 to 2008.

The table gives the annual revenue from Verizon's wireless business and the number of wireless connections that yields this revenue.

Year	Wireless Revenue (billions \$)	Wireless Connections (millions)
2006	38.0	59.1
2007	43.9	65.7
2008	49.3	72.1
2009	60.3	96.5
2010	63.4	102.2
2011	70.2	107.8

- a. Find the average rate of change of wireless revenue with respect to time from 2008 to 2011.

Write the appropriate difference in the top and bottom of the difference quotient

Write the appropriate units for the top and bottom of the difference quotient

$\frac{\Delta \text{Revenue}}{\Delta \text{time}}$

↓

↓

↑

--

--

per

--

Simplify the quotient

- b. Find the average rate of change of wireless connections with respect to time from 2008 to 2011.

$$\frac{\Delta \text{Connections}}{\Delta \text{time}} = \frac{\boxed{}}{\boxed{}} = \frac{\boxed{}}{\boxed{}}$$
$$= \boxed{} \text{ per } \boxed{}$$

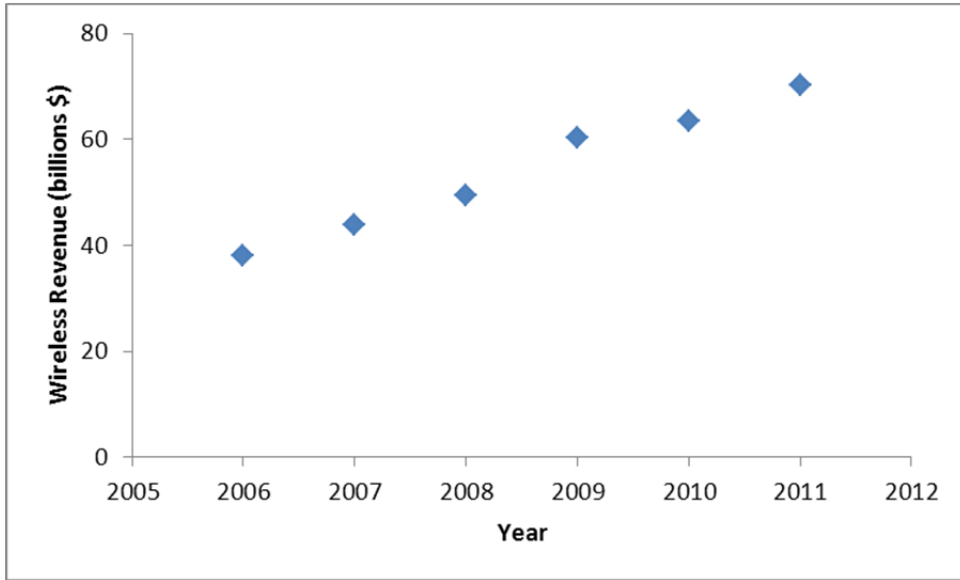
- c. Find the average rate of change of wireless revenue with respect to wireless connections from 2008 to 2011.

d. A financial analyst might look at the average rate of change of wireless revenue with respect to time to indicate whether revenue is increasing or decreasing. Compare the average rate of change of wireless revenue with respect to time over the period 2006 to 2008 to the period 2008 to 2011.

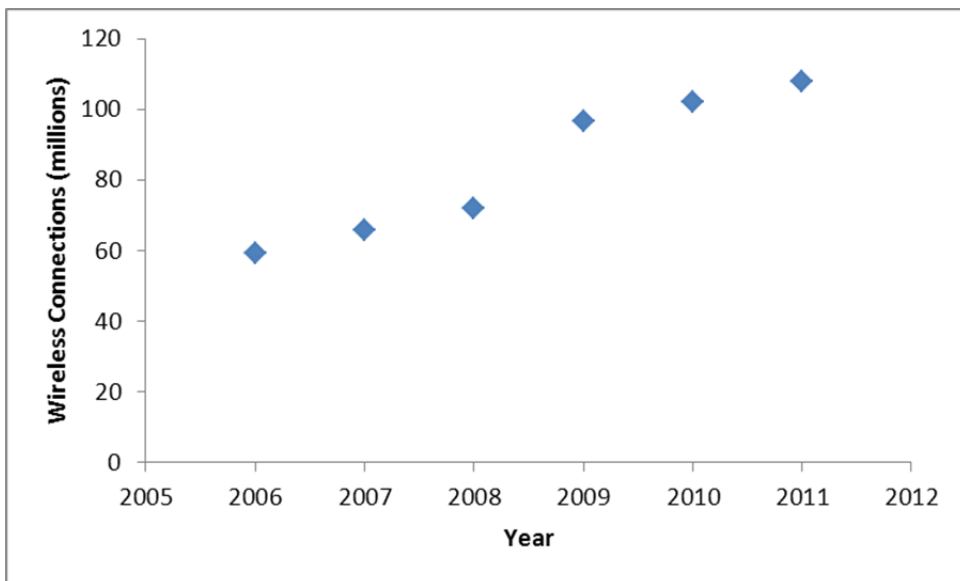
e. A financial analyst might look at the average rate of change of wireless connections with respect to time to indicate whether the number of wireless connections is increasing or decreasing. Compare the average rate of change of wireless connections with respect to time over the period 2006 to 2008 to the period 2008 to 2011.

- f. Can you argue that investing in Verizon might be a good idea?
- g. Compare the average rate of change of wireless revenue with respect to wireless connections in the period 2006 to 2008 to the period 2008 to 2011. Does this change your answer to question 3? What other factors might you look at to help you make an investing decision?

- h. Draw two line segments on the scatter plot to represent the average rate of change of wireless revenue with respect to time over 2006 through 2008 and 2008 through 2011.



- i. Draw two line segments on the scatter plot to represent the average rate of change of wireless connections with respect to time over 2006 through 2008 and 2008 through 2011.



- j. Draw two line segments on the scatter plot to represent the average rate of change of wireless connections with respect to time over 2006 through 2008 and 2008 through 2011.

