**5.1c Finding Rates & Unit Rates from Graphs/Charts**

**EQ:** **How do we write RATES and UNIT RATES from GRAPHS and CHARTS?**

FINDING A **RATE** and **UNIT RATE** from a **GRAPH**:

**-**Use the data in the graph to find the **Rate and Unit Rate.**

The graph shows the distance that you walk.

Find your rate in **feet per second**.

**Step 1**: Choose ONE point on the line to interpret.

 The point **(2, 11)** SHOWS:

YOU WALK **11 feet** in **2 seconds**.

**Step 2:** Use this data to write your RATE:$\frac{FEET}{SECONDS} $= $\frac{11}{2}$

**Step 3:** Find the SPEED (UNIT RATE) in **FEET per SECOND** by DIVIDING the top amount by the bottom amount and then writing the answer over a 1.

 11÷2 = 5.5 🡪 $\frac{5.5 feet}{1 second}$

Therefore, you walk **5.5 feet per second.**

FINDING A **RATE** **of CHANGE** from a **GRAPH**:

**-Use the data in the graph to find the Rate of Change.**

The graph shows the number of games a baseball team won from 2008-2012. According to the graph, **what was the rate of change from 2008 to 2011?**

**Rate of Change =** $\frac{Change in the Y axis}{Change in the X axis}$ **=** $\frac{Change in data}{Change in time}$

In 2008, they won **18 games**, in 2011 they won **30 games**. Therefore, the change in the Y axis data was **+12.**

There was a difference of **3 years** from 2008 to 2011.

Therefore, $\frac{Change in the Y axis}{Change in the X axis}$ = $\frac{Change in data}{Change in time}$ **=** $\frac{30-18}{2011-2008}$ = $\frac{12}{3}$ **= 4**

 SO, the **RATE of CHANGE** was **4 games per year.**

FINDING A **RATE** **of CHANGE** from a **Chart**:

**-Use the data in the chart to find the Rate of Change.**

The graph shows the average wait time at a doctor’s office from June to October. According to the graph, **what was the rate of change from August to October?**

**Rate of Change =** $\frac{Change in the Y axis}{Change in the X axis}$ **=** $\frac{Change in data}{Change in time}$

In **August**, the wait time was **39 minutes**, and in October, the wait time was **35** **minutes.** Therefore, the change in the Y axis data was **- 4.**

There was a difference of **2 months** from **August to October.**

Therefore, $\frac{Change in the Y axis}{Change in the X axis}$ = $\frac{Change in data}{Change in time}$ **=**  $\frac{39-35}{August to October}$ = $\frac{- 4}{2}$ **= - 2**

 SO, the **RATE of CHANGE** was **-2 MINUTES per MONTH.**

IXL J.13 (7th) PRACTICE

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**5.1c Finding Rates & Unit Rates from Graphs/Charts**

**EQ:**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

FINDING A **RATE** and **UNIT RATE** from a **GRAPH**:

**-**Use the data in the graph to find the **Rate and Unit Rate.**

The graph shows the distance that you walk.

Find your rate in **feet per second**.

**Step 1**: Choose ONE point on the line to interpret.

The point **( , )** shows: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Step 2:** Use this data to write your RATE:$\frac{FEET}{SECONDS} $= $\frac{ }{ }$

**Step 3:** Find the SPEED (UNIT RATE) in **FEET per SECOND** by DIVIDING the top amount by the bottom amount and then writing the answer over a 1.

Therefore, you walk \_\_\_\_\_\_\_\_\_\_\_ **FEET per SECOND**

FINDING A **RATE** **of CHANGE** from a **GRAPH**:

**-**Use the data in the graph to find the **Rate of Change.**

The graph shows the number of games a baseball team won from 2008-2012. According to the graph, **what was the rate of change from 2008 to 2011?**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ =** $\frac{Change in the Y axis}{Change in the X axis}$ **=** $\frac{Change in data}{Change in time}$

In 2008, they won **\_\_\_\_\_\_\_\_\_\_\_\_\_\_**, in 2011 they won **\_\_\_\_\_\_\_\_\_\_\_\_\_\_**. Therefore, the **change in the Y axis data** was **\_\_\_\_\_\_\_\_\_\_.**

There was a difference of **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** from 2008 to 2011.

 $\frac{Change in the Y axis}{Change in the X axis}$ = $\frac{Change in data}{Change in time}$ **=** $\frac{ }{ }$ = $\frac{ }{ }$ **= \_\_\_\_\_\_\_\_**

 SO, the **RATE of CHANGE** was **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

FINDING A **RATE** **of CHANGE** from a **Chart**:

**-**Use the data in the chart to find the **Rate of Change.**

The graph shows the average wait time at a doctor’s office from June to October. According to the graph, **what was the rate of change from August to October?**

 **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ =** $\frac{Change in the Y axis}{Change in the X axis}$ **=** $\frac{Change in data}{Change in time}$

In **August**, the wait time was \_\_\_\_\_\_\_\_, and in **October** the wait time was \_\_\_\_\_\_\_\_\_. Therefore, the change in the Y axis data was **- 4.** The change is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because the amount \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

There was a difference of **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** from **August to October.**

 $\frac{Change in the Y axis}{Change in the X axis}$ = $\frac{Change in data}{Change in time}$ **=**  $\frac{ }{ }$ = $\frac{ }{ }$ **= \_\_\_\_\_\_**

 SO, the **RATE of CHANGE** was **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

IXL J.13 (7th) PRACTICE

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