Coached Example

The graph below shows Mr. Kowalski's commute home. He used a combination of taking the bus and walking to get home.

Use that information to describe each part of the graph.

Decide which line segment is steeper.

The line segment from (0, 13) to (30, 1) is ________________ than the line segment from (30, 1) to (50, 0).

The steeper line segment shows Mr. Kowalski moving toward home at a faster rate.

Since a person travels faster on a bus than on foot, the line segment from (0, 13) to (30, 1) shows that Mr. Kowalski __________________________.

30 - 0 = 30, so that segment represents ____ minute(s) of his commute.

13 - 1 = ____, so it represents a distance of ____ mile(s) traveled.

Look at the line segment from (30, 1) to (50, 0).

Does this line segment show Mr. Kowalski taking the bus or walking? ________

50 - 30 = ____ , so that segment represents ____ minute(s) of his commute.

1 - 0 = 1, so it represents a distance of ____ mile(s) traveled.

The graph shows that during his commute, Mr. Kowalski ___________ for the first _____ minute(s) and traveled a distance of ____ mile(s). He then ______ for the next ____ minute(s) and traveled a distance of ____ mile(s).
Notes - Finding rate of change from tables and graphs

Rate of change is the same as finding the ____________.

___________ = __________ = \text{change in the dependent variable (Y)}
\text{change in the independent variable (x)}

I. Ex. Here’s an example of the cost of renting a computer.

<table>
<thead>
<tr>
<th># of days</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$45</td>
</tr>
<tr>
<td>1</td>
<td>$60</td>
</tr>
<tr>
<td>2</td>
<td>$75</td>
</tr>
<tr>
<td>3</td>
<td>$90</td>
</tr>
<tr>
<td>4</td>
<td>$105</td>
</tr>
<tr>
<td>5</td>
<td>$120</td>
</tr>
</tbody>
</table>

1) What is the slope of this table? How did you find the slope?

**The y-intercept is the y-value when the x-value equals _______.
2) What is the y-intercept in this table?

3) Write an equation for this table.

4) What does the slope mean in the context of this problem?

5) What does the y-intercept mean in the context of this problem?

6) Based on this information, how much will it cost to rent a computer for 12 days?
Coached Example

The graph below shows Mr. Kowalski's commute home. He used a combination of taking the bus and walking to get home.

Use that information to describe each part of the graph.

Decide which line segment is steeper.

The line segment from (0, 13) to (30, 1) is **steeper** than the line segment from (30, 1) to (50, 0).

The steeper line segment shows Mr. Kowalski moving toward home at a faster rate.

Since a person travels faster on a bus than on foot, the line segment from (0, 13) to (30, 1) shows that Mr. Kowalski **was on the bus during this time**

30 - 0 = 30, so that segment represents 30 minute(s) of his commute.

13 - 1 = 12, so it represents a distance of 12 mile(s) traveled.

Look at the line segment from (30, 1) to (50, 0).

Does this line segment show Mr. Kowalski taking the bus or walking? **walking**

50 - 30 = 20, so that segment represents 20 minute(s) of his commute.

1 - 0 = 1, so it represents a distance of 1 mile(s) traveled.

The graph shows that during his commute, Mr. Kowalski **took the bus for the first 30 minute(s)** and traveled a distance of 12 mile(s). He **walked** for the next 20 minute(s) and traveled a distance of 1 mile(s).
Notes - Finding rate of change from tables and graphs

Rate of change is the same as finding the slope.

\[
\frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1} = \text{change in the dependent variable (Y)}
\]
\[
\text{change in the independent variable (X)}
\]

I. Ex. Here's an example of the cost of renting a computer.

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<td>$105</td>
</tr>
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<td>$120</td>
</tr>
</tbody>
</table>

\[
\frac{\Delta y}{\Delta x} = \frac{15}{1} = 15
\]

1) What is the slope of this table? How did you find the slope?

\[
\frac{15}{1} = 15
\]

**The y-intercept is the y-value when the x-value equals 0.**

2) What is the y-intercept in this table?

$45$

3) Write an equation for this table.

\[
y = 15x + 45
\]

4) What does the slope mean in the context of this problem?

The cost of renting a computer is $15 per day.

5) What does the y-intercept mean in the context of this problem?

There is a $45 initial fee to rent the computer.

6) Based on this information, how much will it cost to rent a computer for 12 days?

\[
y = 15x + 45
\]
\[
= 15(12) + 45
\]
\[
= 180 + 45
\]
\[
= 225
\]

For 12 days.