**Linear Relations Lesson #6**

How can we find the **initial value** and the **rate of change** from a **sentence**, from a **table**, from an **equation** and from a **graph**?

**Sentences:**

Mae has a starting balance of $500 and he deposits $25 per week.

Initial Value: \_\_\_\_\_\_\_\_\_\_\_\_\_ Rate of Change: \_\_\_\_\_\_\_\_\_\_\_\_

Asha has an initial balance of $300 and she withdraws $15 each day.

Initial Value: \_\_\_\_\_\_\_\_\_\_\_\_\_ Rate of Change: \_\_\_\_\_\_\_\_\_\_\_\_

**Tables:**

Initial Value:

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

Rate of Change:

Initial Value:

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

Rate of Change:

Initial Value:

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

Rate of Change:

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

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

|  |  |
| --- | --- |
| Number of Kilometers  k | Cost of Taxi ($)  C |
| 1 | 4.50 |
| 2 | 5.00 |
| 3 | 5.50 |
| 4 | 6.00 |

|  |  |
| --- | --- |
| Number of Kilometers  k | Cost of Taxi ($)  C |
| 5 | 6.00 |
| 10 | 8.00 |
| 15 | 10.00 |
| 20 | 12.00 |

|  |  |
| --- | --- |
| Number of hours  h | # of km Remaining  R |
| 0 | 500 |
| 2 | 400 |
| 4 | 300 |
| 6 | 200 |

**Equations:**

C = 45 + 15 n, where **C** is the **cost** in $ and **n is the number of hours.**

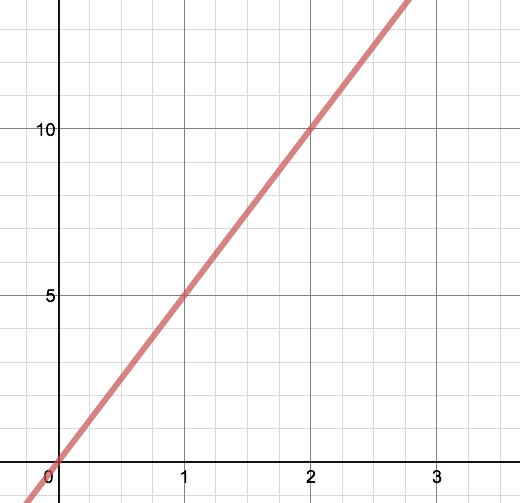
D = 15 – 2 m, where **D** is the **distance in km from home** and **m** is the **number of minutes bicycled**.

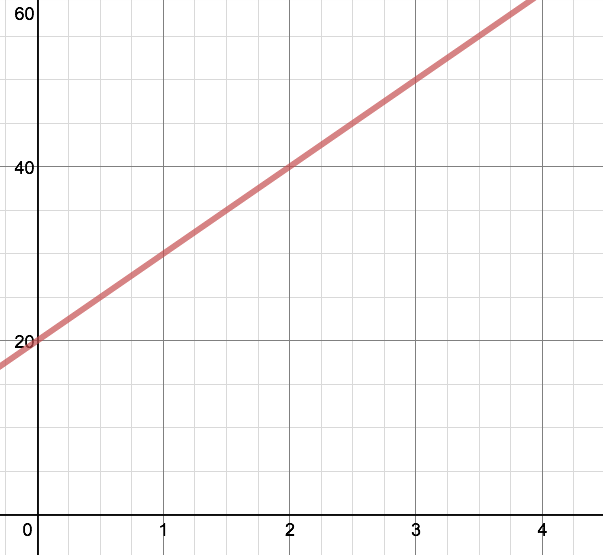
**Graphs:** To find the **rate of change** use the formula

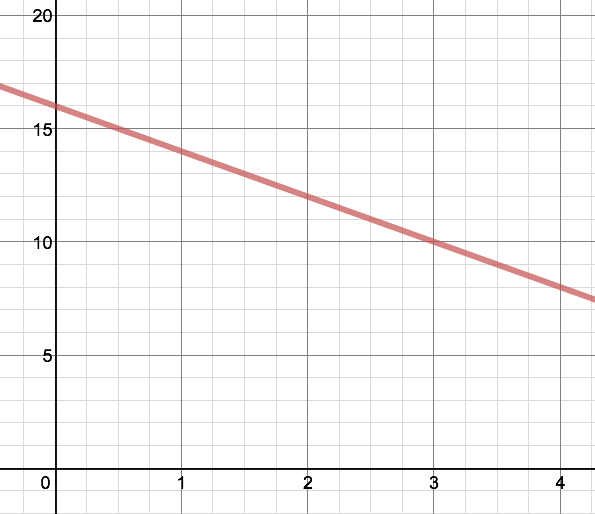
**Rate of Change = rise/run**

Rise means

Run means

****

****

****