**Linear Relations Lesson #5**

Which table shows a **linear relation** (graph would be a straight line)?

A

|  |  |
| --- | --- |
| Number of Kilometers  k | Cost ($)  C |
| 1 | 5 |
| 2 | 10 |
| 3 | 15 |
| 4 | 20 |

B

|  |  |
| --- | --- |
| Number of hours  h | Distance (km)  D |
| 0 | 90 |
| 1 | 200 |
| 2 | 280 |
| 3 | 340 |

C

|  |  |
| --- | --- |
| Number of days  d | Height of Plant (mm)  H |
| 0 | 0 |
| 2 | 4 |
| 4 | 8 |
| 6 | 12 |

D

|  |  |
| --- | --- |
| Number of Weeks  w | Bank Balance  B |
| 0 | 140 |
| 1 | 100 |
| 2 | 60 |
| 3 | 20 |

What is the **initial value** for each table?

A: \_\_\_\_\_\_\_\_\_ B: \_\_\_\_\_\_\_\_\_ C: \_\_\_\_\_\_\_\_\_\_ D: \_\_\_\_\_\_\_\_\_\_\_

**Why is table C different** than the other tables? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What is the **rate of change** for the following table?

A: \_\_\_\_\_\_\_\_\_\_\_\_\_ B: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ D: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

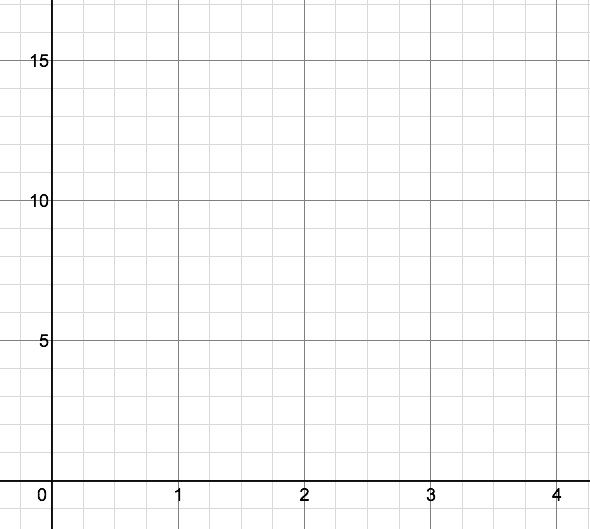
**Why is finding the rate of change for C different** than the others?

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

Which rates of change are **positive**? \_\_\_\_\_\_\_\_\_ **Why** are they positive? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Which rates of change are **negative**? \_\_\_\_\_\_\_\_\_\_\_ **Why** are they negative? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Graph the three **linear** relations.





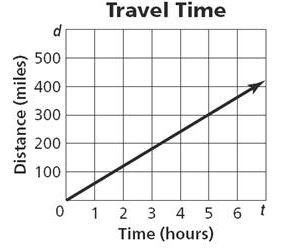


What is true about the **graph of a relationship with a positive rate of change?**  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

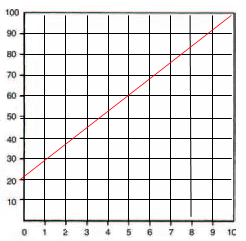
What is true about the **graph of a relationship with a negative rate of change?** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Direct Variation vs. Partial Variation**

**Direct Variation** is when the graph **goes through (0,0).**



**Partial Variation** is when the graph does **not go through (0,0).**



Which of the three linear relations above have **direct variation**? \_\_\_\_\_\_\_\_

Which of the three linear relations above have **partial variation**? \_\_\_\_\_\_\_