**How to find the an average rate of change**

The average rate of change (ARC) between two points  and  can be found using the formula : .

**Example:**

Using the points (-2,4) and (-1,1), substitute the points into the formula and evaluate.



1. Find the average rate of change between (0,-4) and (2, -8).
2. The table below gives values of the total world population in millions as well as the average rate of change between consecutive points.

|  |  |  |
| --- | --- | --- |
| World Population | | |
| Year | Total Population (millions) | Average Rate of Change (ARC) |
| 1850 | 1260 | ─ |
| 1900 | 1650 | 7.8 |
| 1950 | 2520 | 17.4 |
| 2000 | 6060 | 70.8 |

1. What are the units for the average rate of change in this situation?
2. The average rate of change between 1850 and 1900 is 7.8. Interpret this in the context of this situation.
3. Are the average rates of change increasing, decreasing, or constant?