

Modeling Functions--Rate of Change

Big Ideas: Sometimes a rate of change is too large or small to graph in detail. Rate of Change can still be found using significant points.

Only two points are needed to make a line.

Tables can help organize information to make rate of change.

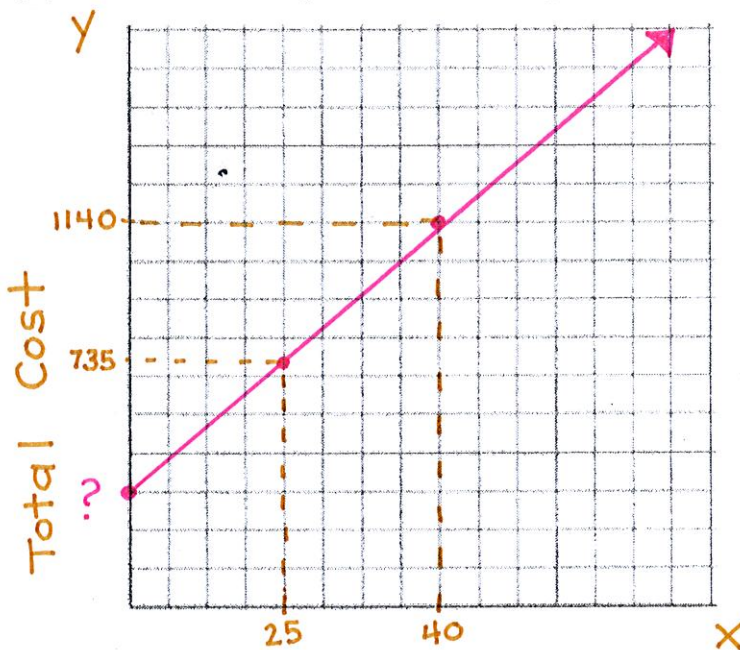
Example:

Martin wants to buy shirts for his Math Olympiad team. The shirt printer tells him there is an initial set up fee to make the design, and then a set charge for each shirt.

Martin is told that 40 jerseys will cost \$1140 and that 25 shirt cost \$735.

a. Sketch a graph of this situation (label axes and significant points).

b. What is the cost for each shirt, (not including the set up fee)?



$ \begin{array}{r} \text{X shirt} \\ 15 \left\{ \begin{array}{l} 25 \\ 40 \end{array} \right. \end{array} $	$ \begin{array}{r} \text{Y cost} \\ 735 \\ 1140 \end{array} $	$ \begin{array}{r} 1140 \\ - 735 \\ \hline 405 \end{array} $	$ \frac{\Delta y}{\Delta x} = \frac{405}{15} $
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$$\begin{array}{r}
 27 \\
 15 \overline{) 405} \\
 \underline{30} \\
 105 \\
 \underline{105} \\
 0
 \end{array}$$

of Shirts
\$27 per shirt