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# MATH 11009: Graphing with Excel

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**Example:** Suppose that the cost  $C$  of removing  $p\%$  of the pollution from drinking water is given by the model

$$C = \frac{5350p}{100 - p}.$$

Graph this function using Excel on a viewing window  $[0, \$100]$  by  $[100, \$50,000]$ .

1. Enter the data set

- Open a new worksheet in Excel.
- In cell A1, enter  $p$ , and in B1 enter the letter  $C$  and the formula for  $C$  as

$$C = 5350p/(100 - p)$$

Be careful to include the denominator in parenthesis.

- Enter 0 in A2. To create the data set quickly, choose a regular increase in the value of  $p$ , such as 10. Then in A3 type “=A2+10”
- Position the mouse pointer on the lower right hand corner, until you see the black cross, and then click and drag straight down until you have several values listed in the  $p$  column.
- Enter the formula for  $C$  in cell B2 as “=5350\*A2/(100-A2)”
- Use the lower right handle of cell B2 to drag the formula straight down to see the values of  $C$  for the given value of  $p$ .

2. Format the column B to currency notation

- Highlight column B (To do this, go to cell B2 and holding down the left mouse button, drag until the end of the column.
- Next, right click on the highlighted column and choose **Format cells**.
- Select **Currency** and click **OK**
- Column B should now be in currency notation.

3. Graph the Function

- To graph the function, highlight the data set. To do this, left click on cell A1 and hold the left mouse button down until you highlight the entire table that contains the data points.
- Click the **Insert** tab and then click **Scatter** in the chart section. Once in **Scatter** click on **Scatter with smooth lines without markers**.
- You may now click on the chart and use the **Design**, **Layout**, and **Format** tabs at the top of the worksheet to format any portion of the graph, change axes, and label axes.

**Example 1.** Suppose the revenue from the sale of  $x$  coffee makers is given by

$$R(x) = 52x - 0.1x^2.$$

Graph this function in Excel using a viewing window with  $x$  between 0 and 100.