***MFM2P – Cup Stacking Class Work*** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. A group collects the following data for its stacked cups. Make a scatterplot and draw a line of best fit. Remember to label your axes.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | # cups | Height (cm) | | 1 | 8.5 | | 2 | 10 | | 3 | 11.5 | | 4 | 12.5 | | 5 | 14.0 | | 6 | 15.5 | | 7 | 16.5 | |  |

1. Determine the rate of change (“slope”) and y-intercept of your line of best fit, then build an equation connecting the number of cups to the stack height.
2. Use your equation to predict:  
   a) The height of 65 cups b) How many cups will reach 186 cm?
3. What does the cup look like?   
   Draw a picture, and include   
   any important measurements.