

*Do your results make sense when  $\theta = 90^\circ$  as  $x$  varies? What happens?*

The results make sense when  $\theta = 90^\circ$  and  $x$  varies because as the distance gets larger, the moment stays the same which makes sense if  $\theta = 90^\circ$  as there will only be a vertical force. That vertical force will only be affected by the horizontal distance.

*Do your results make sense when  $x = 0$  as  $\theta$  varies? What happens?*

My results make sense when  $\theta = 90^\circ$  and as  $\theta$  varies since  $x$  will always be 0 (in this case there will only be a moment when there is a vertical force as well, because the distance to the line of action of the horizontal force will be zero. Therefore, when  $\theta$  is 0 and 180, there will be a zero moment.

*As  $x$  increases, do the results make sense? Pay particular attention to the location of the maximum moment. If  $x \rightarrow \infty$ , from your understanding of the physical problem where would you expect the maximum moment to occur? Do your results indicate that this will happen?* Interpreting the results, we know that moment is equal to the force multiplied by the perpendicular distance, so if the distance keeps getting bigger then the moment will be bigger also as a result of this.

*If you wanted to have the moment at  $A$  be completely independent of  $x$ , what would you do based on your results?*

Based off my results i would want a value tied to  $x$  to be equal to 0.

*If you wanted to have the moment of  $A$  be zero, what would you do based on your results?*

Based on the graph, it is shown that if  $x$  is at 0 m, the moment is also 0. So to keep the moment at 0, I would make the distance 0 m as well.