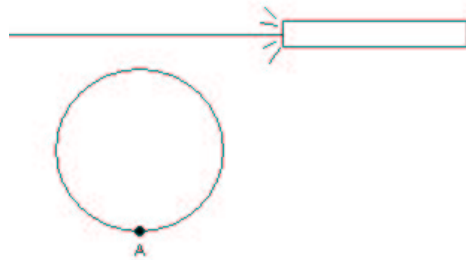


Name: \_\_\_\_\_

**Math 120U**  
**Quiz 2**

1. You own a business that sells widgets. The number of widgets that you sell depends on the price that you charge for them. If you charge \$1 per widget, you know you'll sell 700 widgets. If you charge \$2 per widget, you'll sell 400 widgets. Find a linear function that relates the amount you charge,  $p$ , to the amount you sell,  $q$ .

2. A computer chip manufacturing plant uses a laser to cut a cylinder into slices that they can use for chips. The cylinder is 6 inches in diameter. The laser starts 2 inches above the top of the cylinder and moves downward at a speed of .5 in/second. Point A in the picture is the very bottom of the cylinder.



a) How long does it take the laser to cut the cylinder?

b) Impose a coordinate system. After 6 seconds, what are the coordinates of the points where the laser meets the edge of the cylinder?

(part c is on the back)



c) What is the distance between one of the points you found in part (b) and point A? (It shouldn't matter which point you pick.)