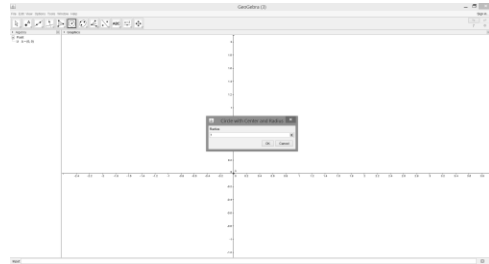
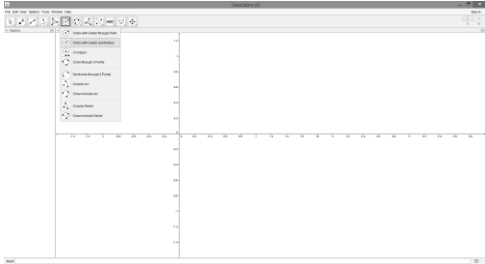


Name: \_\_\_\_\_

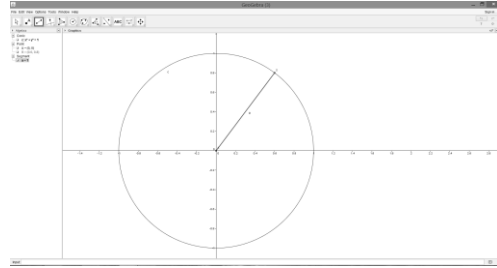
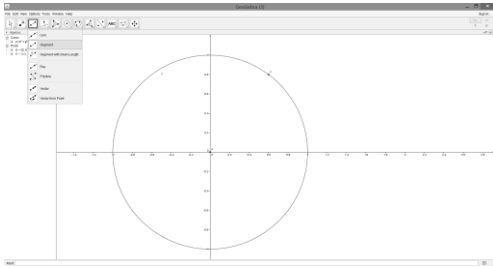
Date: \_\_\_\_\_

### Creating A Unit Circle

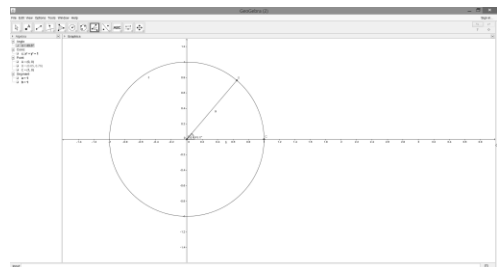
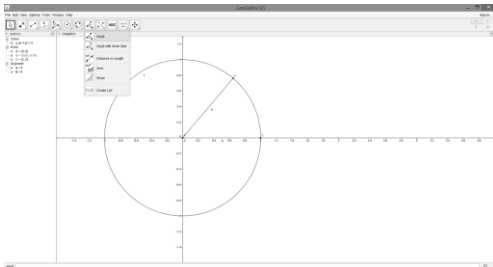
1. Click 'Create A Circle And Radius'. Click the origin. Enter 1 for the Radius.



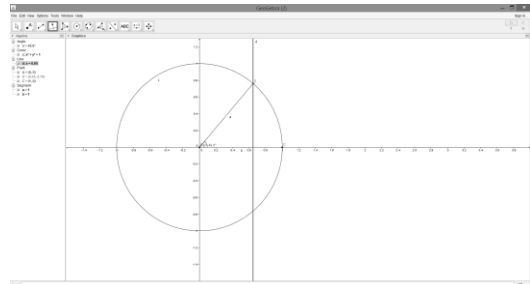
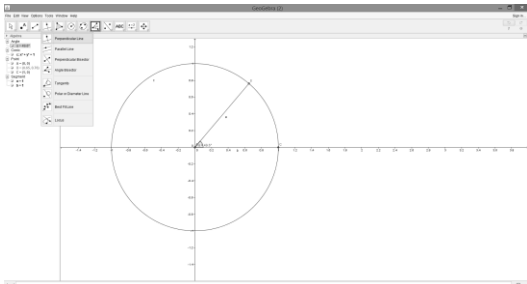
2. Put a point in Quadrant I on the circle.
3. Connect point A to point B with a line segment.



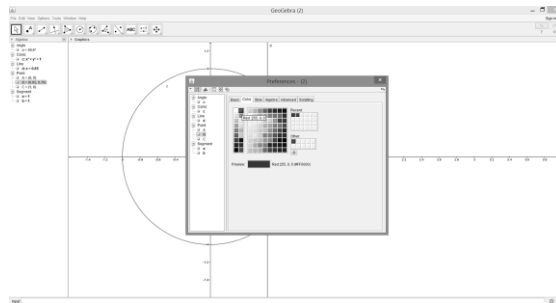
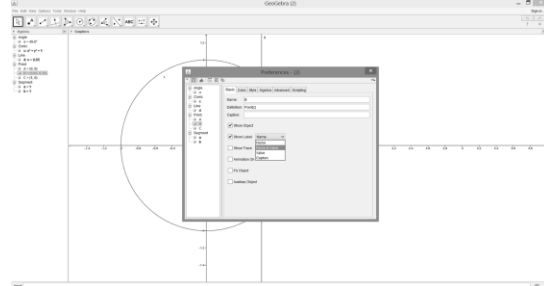
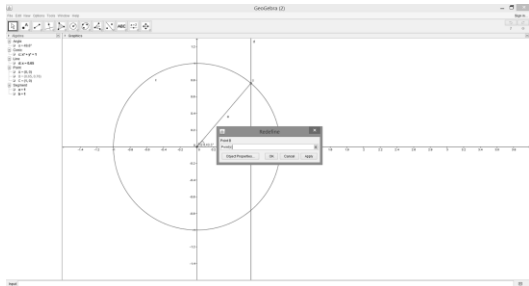
4. Place a point where the circle and the x-axis intersect. Connect point A and C with a line segment.
5. Create an angle by clicking 'Create an Angle'. Then click the points C, A, B.



6. Create a perpendicular line by clicking 'Perpendicular Line'. Then click point B and segment b.



- Double click point B, 'Object properties', change the label to 'name and value'. Change the color of the point to make it stand out.



Move point B to modify the angle you've created. The coordinates of B are  $(\cos\alpha, \sin\alpha)$ .

Why are the coordinates of B the cosine and sine of the angle? (Think SOH CAH TOA)

Does sine or cosine have a maximum value? If so, what?

What happens to the sine and cosine when the angle is in?

Quadrant I:

Sine \_\_\_\_\_

Cosine \_\_\_\_\_

Quadrant II:

Sine \_\_\_\_\_

Cosine \_\_\_\_\_

Quadrant III:

Sine \_\_\_\_\_

Cosine \_\_\_\_\_

Quadrant IV:

Sine \_\_\_\_\_

Cosine \_\_\_\_\_