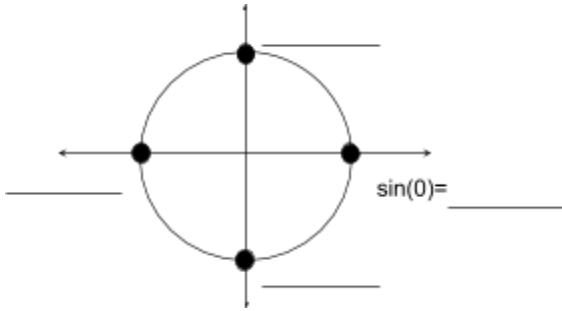
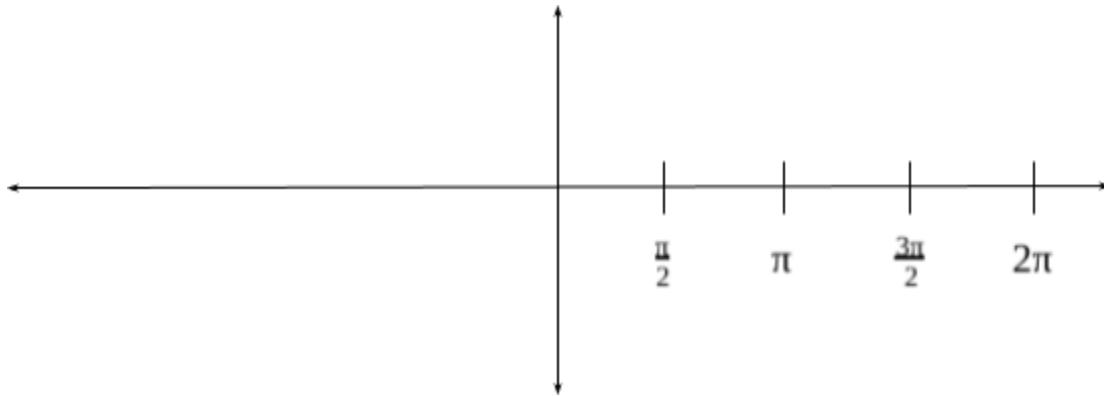


# Investigating the Graph of Sine

1. Fill in the quadrantal values for sine.

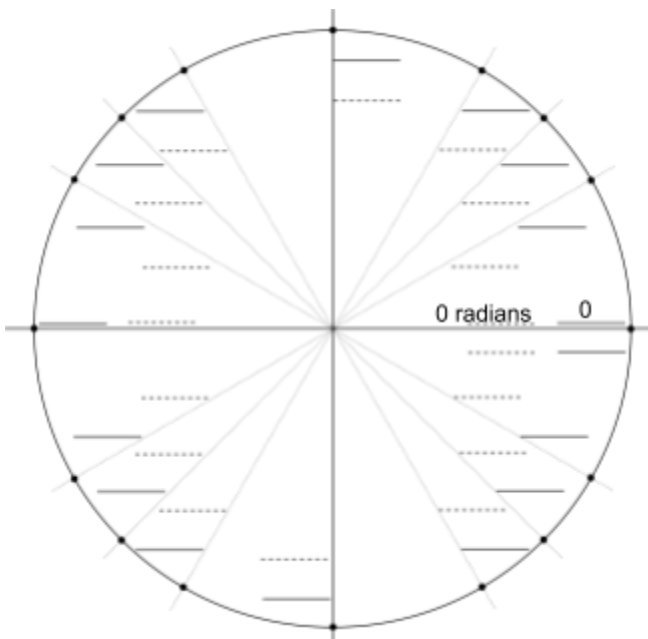


2. Graph these quadrantal values on the coordinate plane below where  $x$  is in radians and  $y = f(x) = \sin x$ .

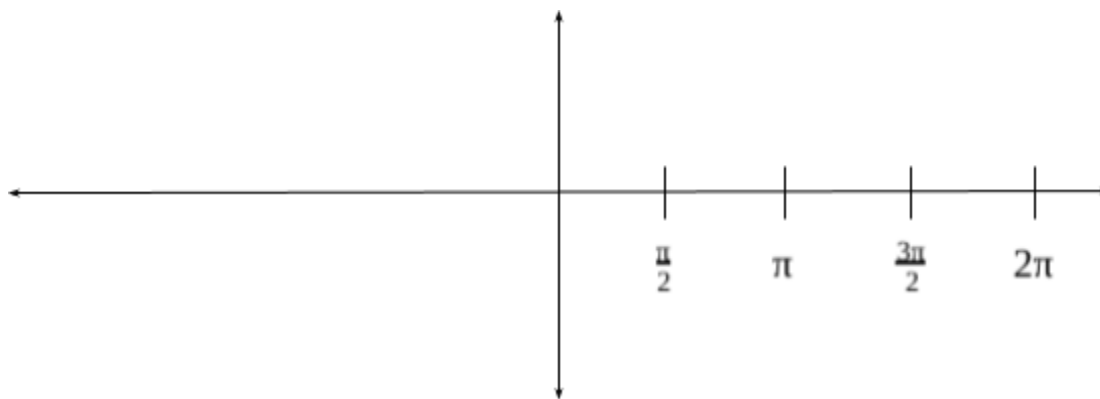


3. Make a conjecture about what you think the full graph of sine looks like based on these 5 points you have plotted.

4. Fill in the rest of the unit circle values for sine and convert these values to decimals.



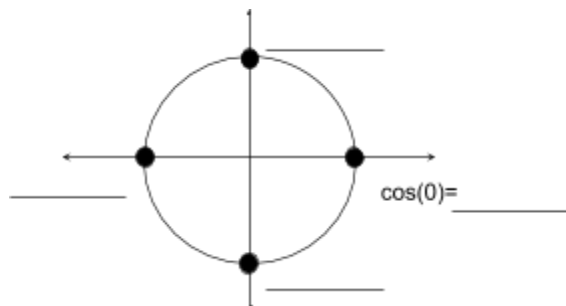
5. Graph the values you found in #4



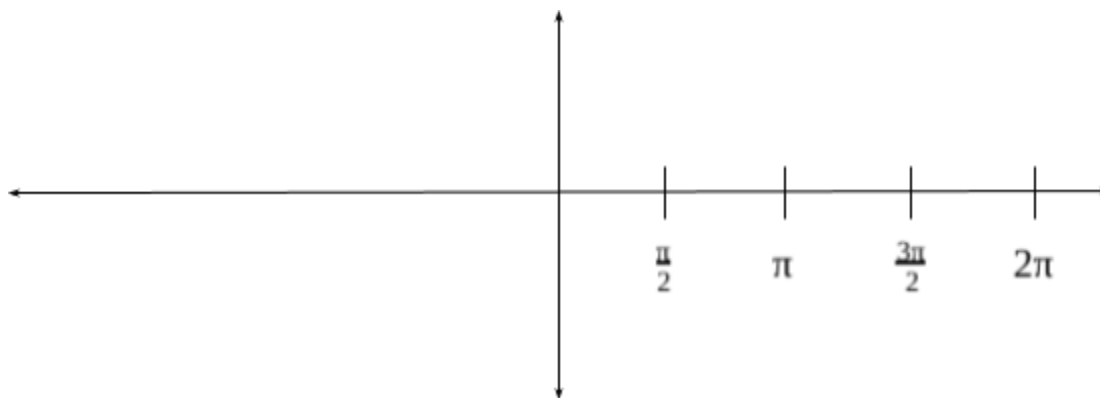
6. What does the graph do when  $x < 0$ ? What about when  $x > 2\pi$ ? How does this relate to what we know about the behavior of angles on the unit circle?

### Investigating the Graph of Cosine

7. Fill in the quadrantal values for cosine.

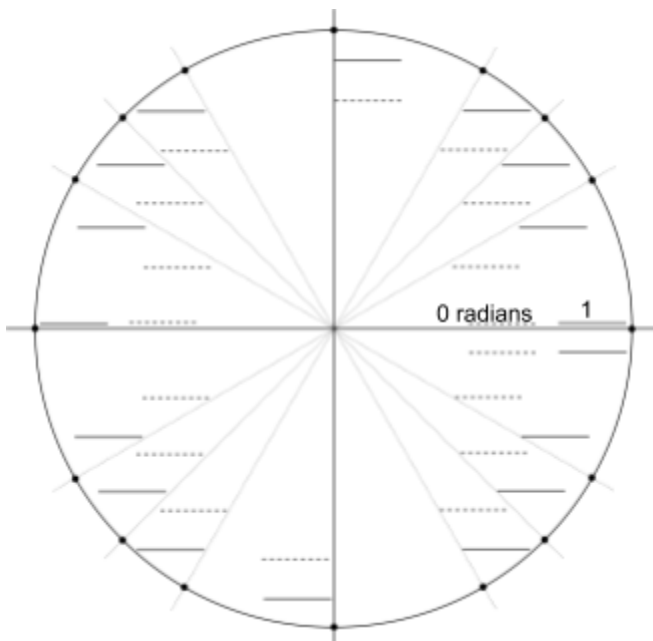


8. Graph these quadrantal values on the coordinate plane below where  $x$  is in radians and  $y = f(x) = \cos x$ .

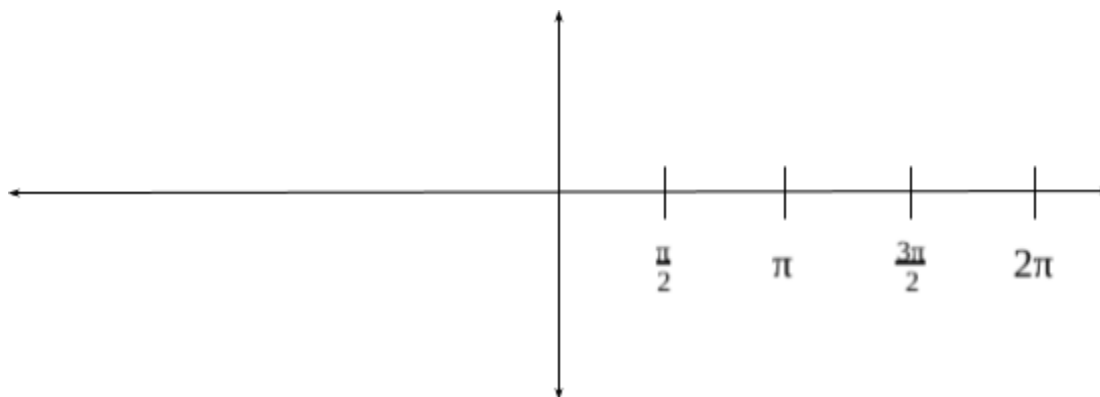


9. Make a conjecture about what you think the full graph of cosine looks like based on these 5 points you have plotted.

10. Fill in the rest of the unit circle values for cosine and convert these values to decimals.



11. Graph the values you found in #10

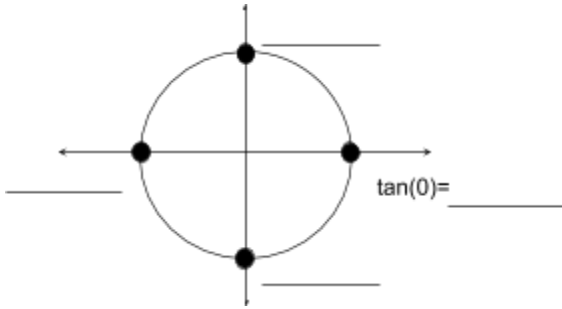


12. What does the graph do when  $x < 0$ ? What about when  $x > 2\pi$ ?

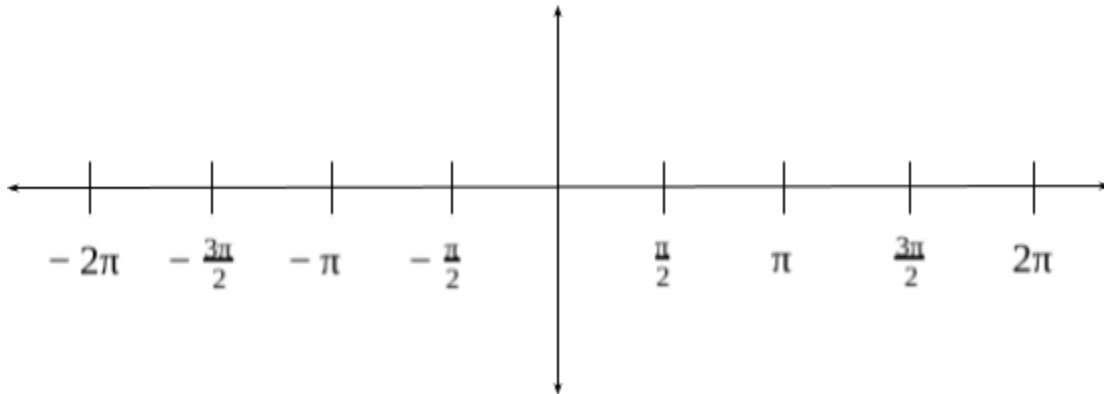
13. How do the graphs of sine and cosine differ?

## Investigating the Graph of Tangent

14. Fill in the quadrantal values for tangent.

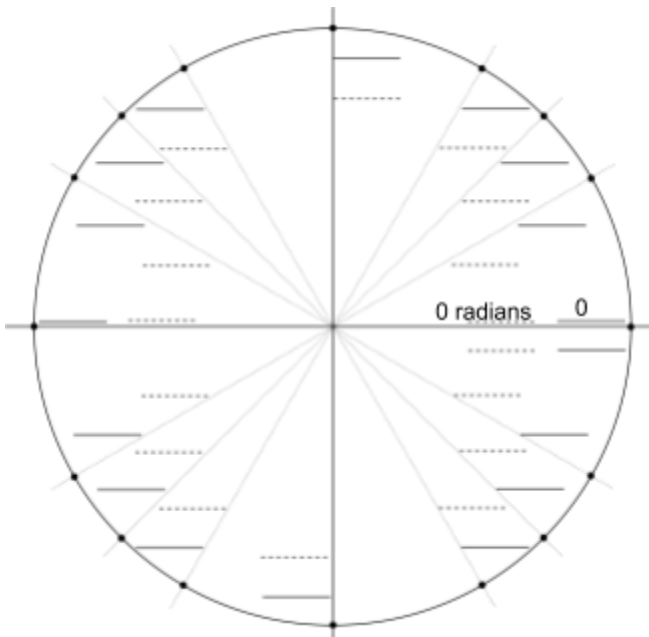


15. Graph these quadrantal values on the coordinate plane below where  $x$  is in radians and  $y = f(x) = \tan x$ .

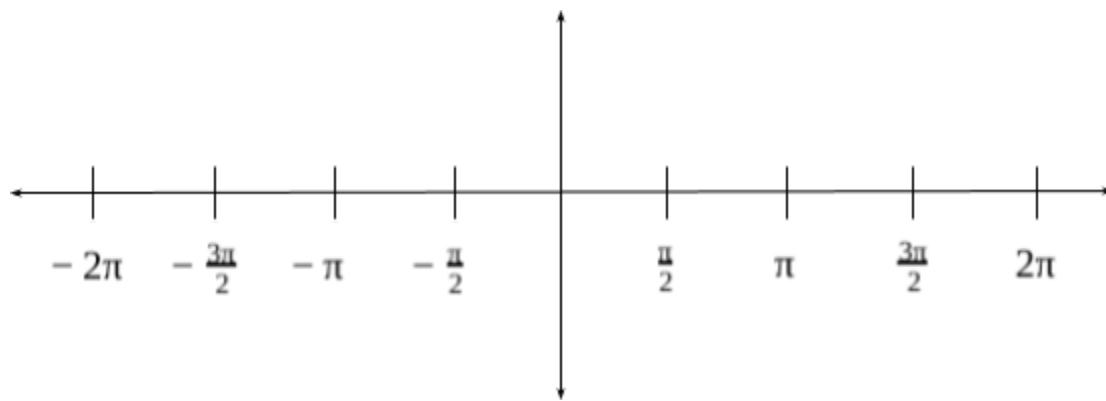


16. Make a conjecture about what you think the full graph of tangent looks like based on these points you have plotted.

17. Fill in the rest of the unit circle values for sine and convert these values to decimals.



18. Graph the values you found in #17



19. What does the graph do when  $x < 0$ ? What about when  $x > 2\pi$ ?