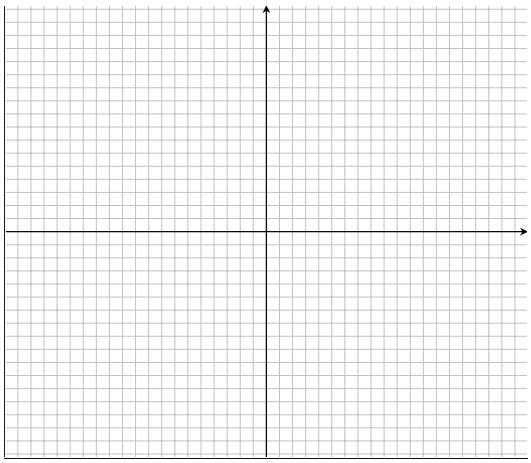
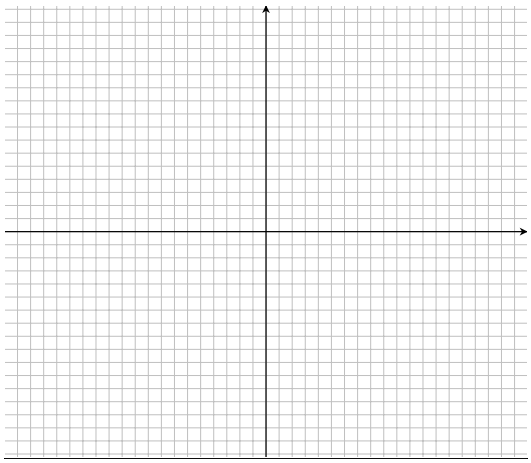
Trigonometry

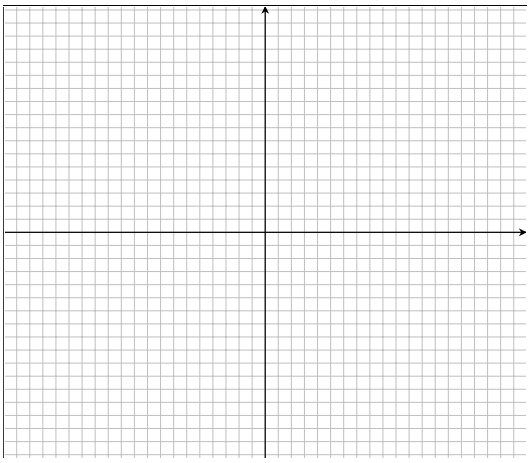
1. Fill in the following table, using the five standard angles in the first quadrant.

Angle, θ		$\sin\theta$	$\cos\theta$	$\tan\theta$
deg	rad			

2. Sketch the graphs of sine, cosine, and tangent from -3π to 3π. Make sure you have the x-intercepts, max and min values (for sine and cosine), and vertical asymptotes (for tangent).







Exponential Growth and Decay

3. Consider the function $f(x) = e^x$. Give the domain, range, y-intercept, horizontal asymptote, and end behavior in the spaces provided.

   Domain: _____

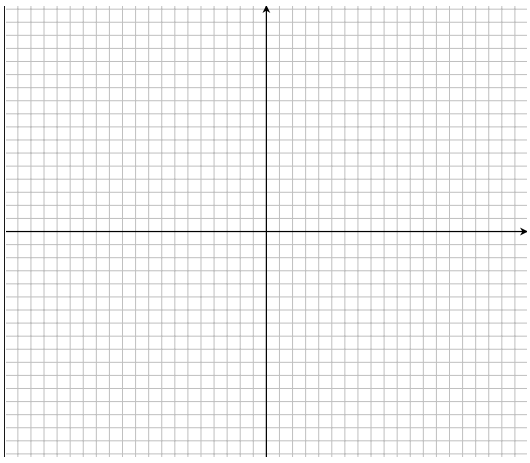
   Range: _____

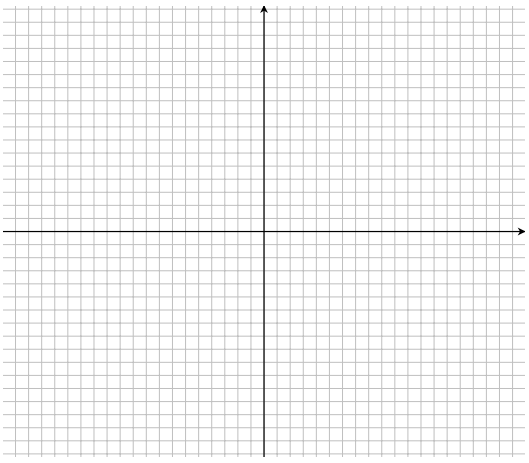
   y-intercept: _____

   horizontal asymptote: _____

   end behavior: $\lim_{x\to\infty} e^x$ = _____ $\lim_{x\to-\infty} e^x$ = _____

4. Sketch graphs of e^x and e^{-x}. Make sure to include the y-intercepts, horizontal asymptotes, and end behavior.





The Natural Logarithm

5. Consider the function $f(x) = \ln x$. Give the domain, range, x-intercept, vertical asymptote, and end behavior in the spaces provided.

   Domain: _____

   Range: _____

   x-intercept: _____

   vertical asymptote: _____

   end behavior: $\lim_{x\to\infty} \ln(x) =$ _____

6. Sketch the graphs of $\ln(x)$ and $\ln|x|$. Make sure to include x-intercepts, vertical asymptotes, and end behavior.