Transformation Review

1. Explain what each does to the *original* graph $y = f(x)$. (Assume $c > 0$.)

   (a) $f(x) + c$

   (b) $f(x) - c$

   (c) $f(x + c)$

   (d) $f(x - c)$

   (e) $cf(x)$

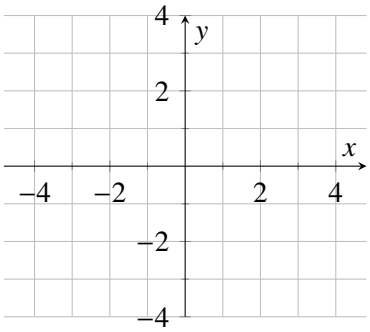
   (f) $f(cx)$

   (g) $-f(x)$

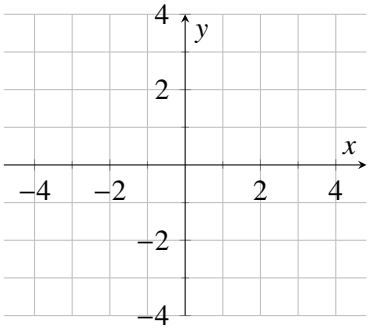
   (h) $f(-x)$

2. Let $f(x) = \begin{cases} 2 & x \le 1 \\ 3 - x & x > 1 \end{cases}$. Graph each of the following *using the ideas from # 1 above.*

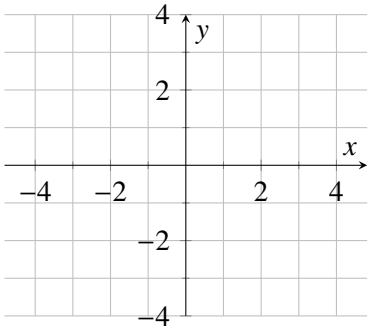
   (a) $f(x)$



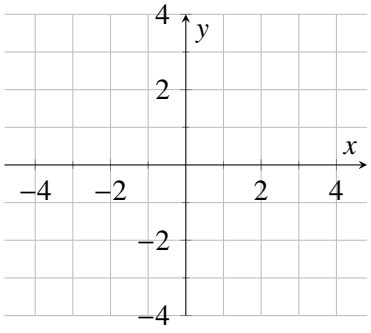
   (b) $f(x + 1)$



   (c) $f(2x)$

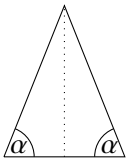


   (d) $-2f(x)$

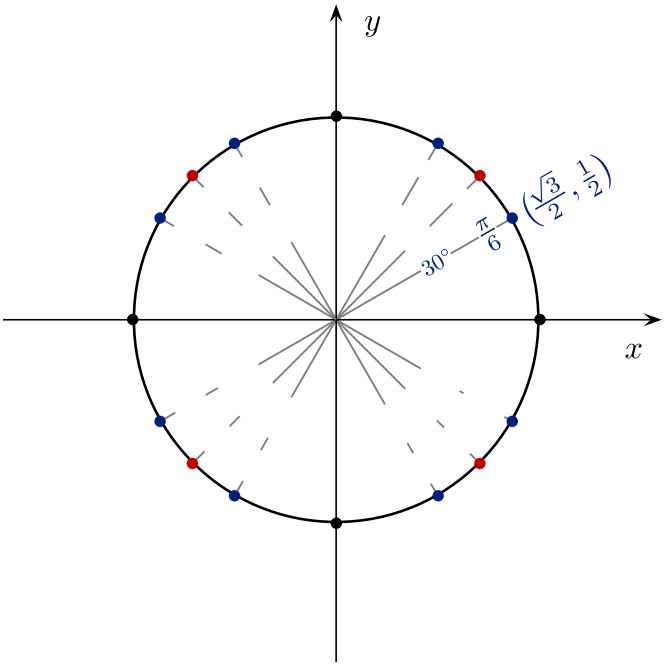


Trigonometry Review

3. An isosceles triangle has a height of 10 ft and its base is 8 feet long. Determine the sine, cosine, tangent, cotangent, secant and cosecant of the base angle α.



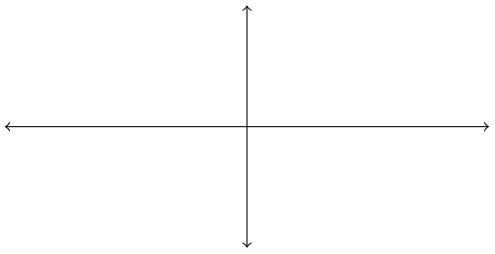
4. Using a 45-45-90 triangle and a 30-60-90 triangle find the coordinates of **any three marked points, one of each color** on the unit circle. (The blue points are at multiples of $\frac{\pi}{6}$, the red points are at multiples of $\frac{\pi}{4}$, and the black points are at multiples of $\frac{\pi}{2}$.)

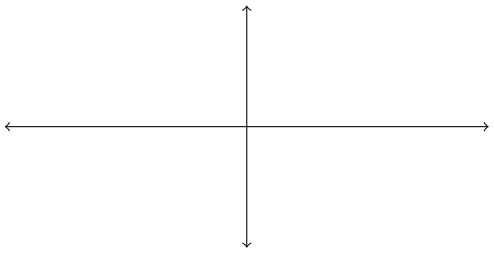


5. Without a calculator evaluate:

   (a) $\sin(\frac{2\pi}{3})$ (b) $\cos(\frac{5\pi}{4})$ (c) $\tan(\frac{-\pi}{4})$

6. On the axes below, graph *at least two cycles* of $f(x) = \sin x$, $f(x) = \sin(x/2)$. Label all x- and y-intercepts.





7. (a) Use the graph of $f(x) = \sin(x)$ to solve sin(x) = 1

(b) Use the graph of $f(x) = \sin(x/2)$ to determine the domain of f(x) = csc(x/2)