Instructions

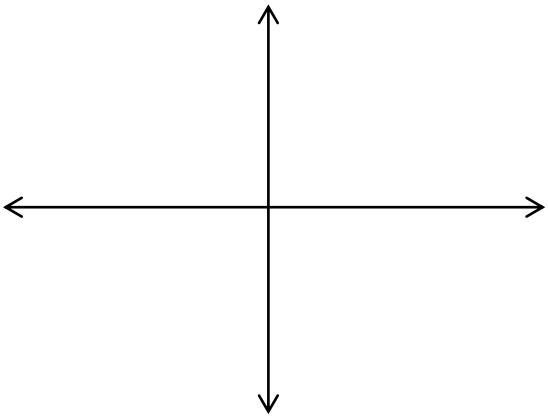
- **Complete the problems as if this were an actual test.**
  - **70-80 minutes of uninterrupted time.** (this means no phones, Netflix, snapchat, etc….I promise you will survive 😊)
  - **Don't use your calculator on the NonCalc problems**
  - **No help from notes, friends, google, etc.**
- **After you have completed the problems, grade your test using the key provided.**
- **Try extra problems, similar to the ones you missed, until you feel like you understand those concepts.**

Practice Test / Unit 8 **Secondary 3 Honors**

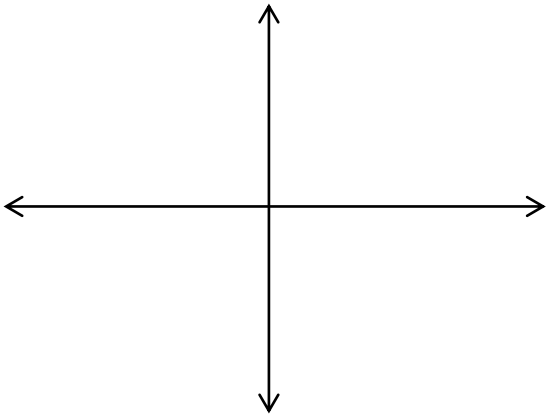
Non-Calculator

Graph ONE complete cycle of the following. Make sure you label your x and y axes.

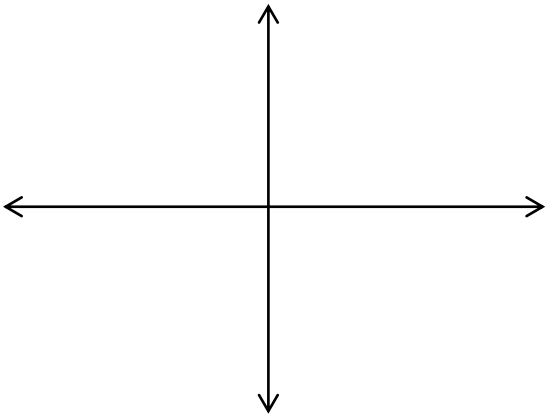
1. $y = 3\sin 2\pi x$



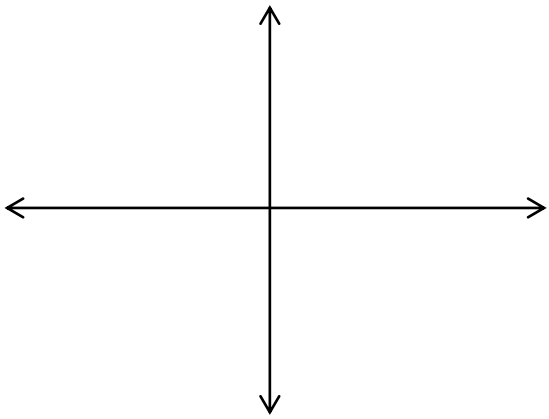
2. $y = \tan 2\left(x + \frac{\pi}{4}\right)$



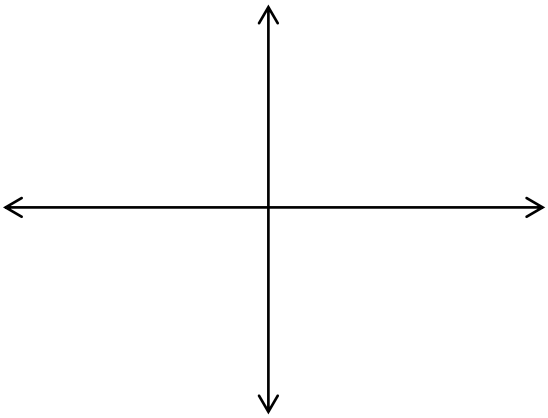
3. $y = \cos 4\left(x + \frac{\pi}{2}\right)$



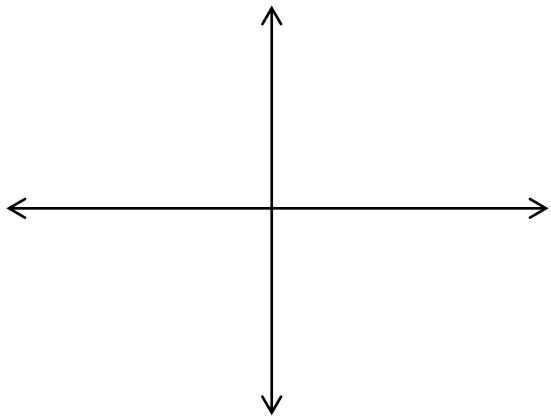
4. $y = \csc\left(x - \frac{\pi}{2}\right) + 2$



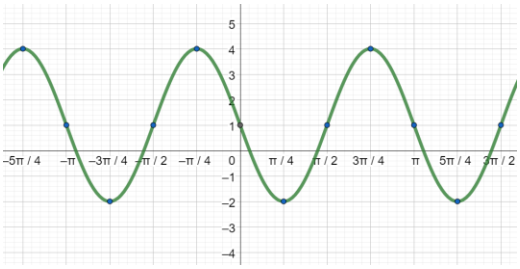
5. $y = -3\sec\left(\frac{x}{4}\right)$



6. $y = \cot(x + \pi)$



7. Write an equation for the following graph.



8. Solve for θ.

   a. $\cos\theta = -\frac{\sqrt{3}}{2}$ $180° \leq \theta < 270°$

   b. $\sin\theta = \frac{1}{2}$ $90° \leq \theta < 180°$

   c. $\tan\theta = -\sqrt{3}$ $\frac{\pi}{2} \leq \theta < \pi$

9. Evaluate the following.

   a. $\tan\frac{\pi}{2}$ b. $\cos\frac{\pi}{4}$ c. $\sec\left(-\frac{7\pi}{6}\right)$ d. $\sin\pi$

CALCULATOR.
Solve the following triangles. Show all work.
Round answers to 2 decimal places.

10. A = 25°, B = 86°, a = 12

11. A = 6, b = 10, c = 5

12. C = 41°, c = 7, b = 6

13. After a wind storm the small tree in my neighbor's yard was leaning. To keep it from falling, we nailed a 6-foot strap into the ground 4 feet away from the base of the tree. We attached the strap to a point on the tree that was $3\frac{1}{2}$ feet above the ground. How far from **<u>vertical</u>** was the tree leaning?

    Draw a picture and show your work.