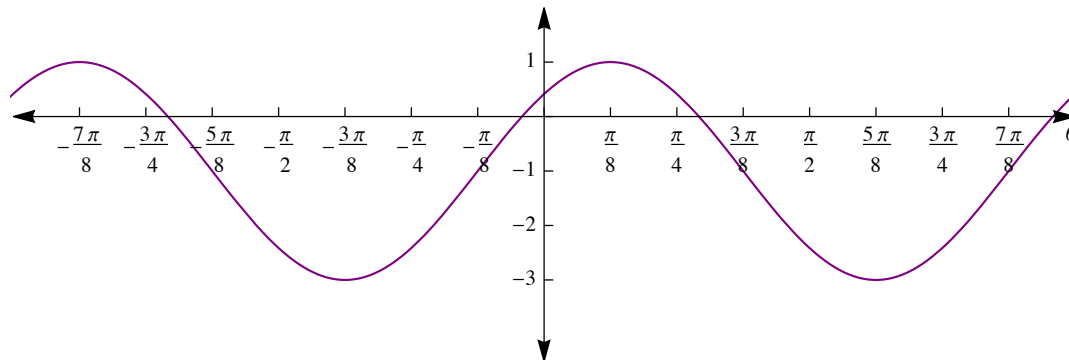


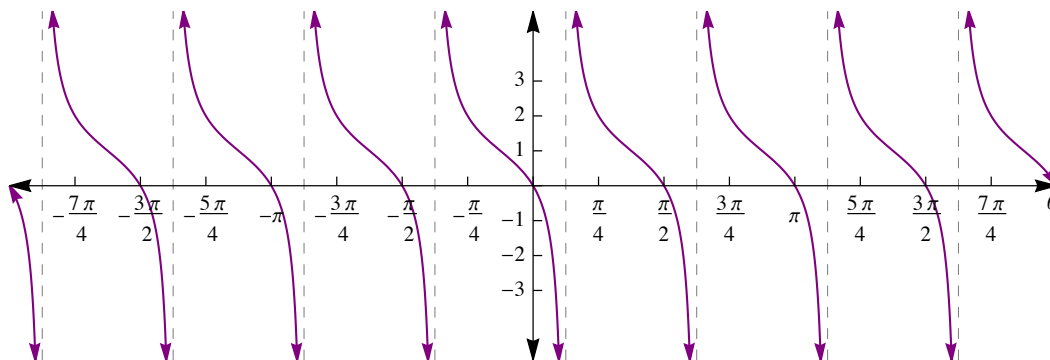
# Trigonometry Assignment #8

Covers up to Trigonometry 31: Sin and Cos: Vertical Shift

- Write the equation of a cosine function with an amplitude of 10, a period of  $3\pi/2$  radians and a phase shift of  $\pi/2$  radians. Is this function odd, even or neither?
- Find at least two equations for the trigonometric function graphed below:



- Find at least one equation for the trigonometric function graphed below:



- [Challenge]** Carly observed a population of rabbits for one year. She counted a minimum of 1500 rabbits at the beginning of February and a maximum of 2700 rabbits at the beginning of August. Since she was looking for a population model, she decided on  $P(t) = 2700 \cos\left(\frac{t-2}{12}\right) + 1500$  where  $t$  is in months and  $t = 0$  corresponds to January. Correct all of Carly's mistakes. Identify each mistake by name and provide the correct value in each instance.