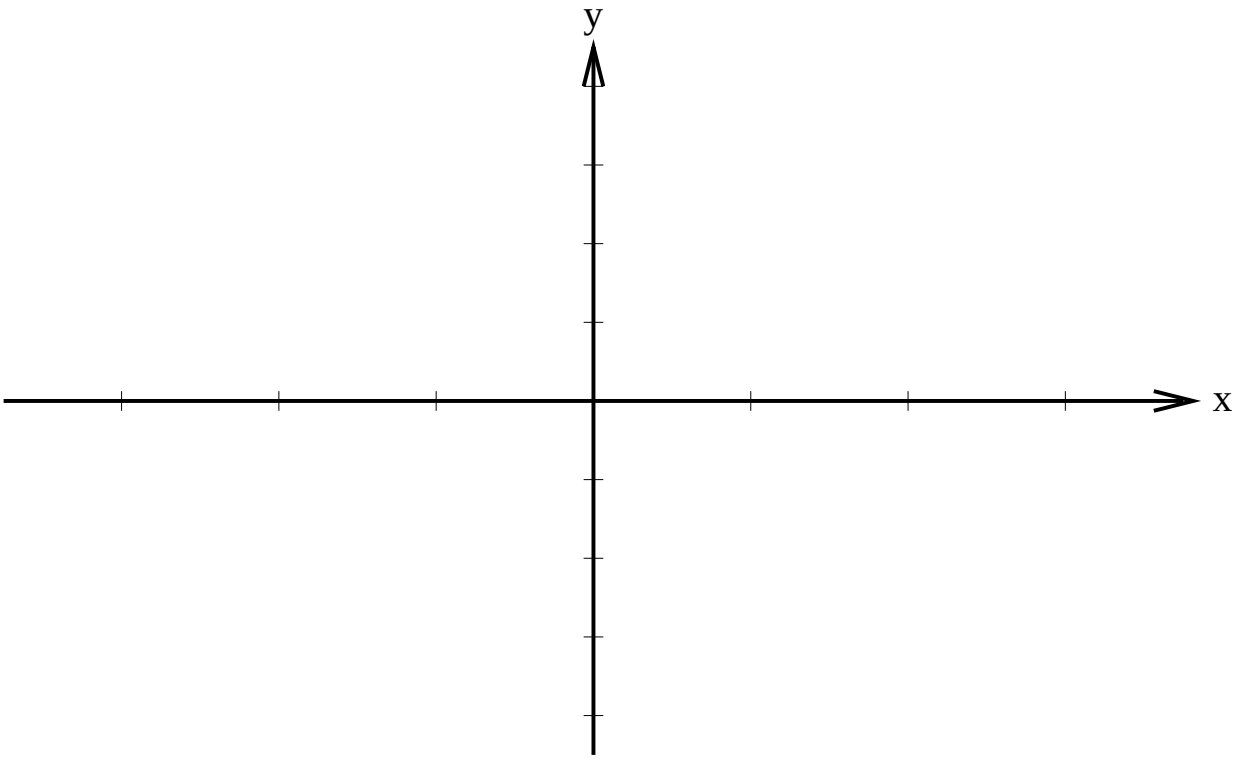
7. (10 pts.) On the axes provided below, sketch at least two full periods of the graph of the trigonometric function

$$f(x) = 1 + 2\cos(\frac{2\pi}{3}x).$$

Be sure to indicate the choice of units on each axis.



(b) What are the amplitude and period of f?

Amplitude = _____ Period = _____

(c) Find a formula for the function g whose graph is obtained by shifting the graph of f down by two units and to the right by two units.

$g(x) =$ _____

(d) Find a formula for the trigonometric function, k, whose graph has **all** of the following features
- the same midline and amplitude as f,
- twice as many peaks and valleys as f, and
- at least one of its peaks coincides with a peak of f.

$k(x) =$ _____