

1. (6 points) The table gives the values of a function f .

x	2	4	6	8
$f(x)$	15	9	6	2

- (a) If f could be a linear function, find a possible formula for f . If not, explain why not.

The function is not linear because $\frac{\Delta y}{\Delta x}$ is not constant.
 Note: $\frac{15-9}{-2} = -3 \neq \frac{9-6}{-2} = -\frac{3}{2}$

- (b) If f could be an exponential function, find a possible formula for f . If not, explain why not.

$\frac{9}{15} = \frac{3}{5} \neq \frac{6}{9} = \frac{2}{3} \neq \frac{2}{6} = \frac{1}{3}$
 The function is not exponential because ratios of y -values over equally-spaced x -values are not constant. -- i.e.; not a constant % rate of change.

2. (8 points) For the periodic function with the graph given below, determine:

- (a) the period of the function; 6
- (b) the amplitude of the function; 2
- (c) a possible formula for the function. $f(x) = \underline{2 \cos(\pi(x))}$

