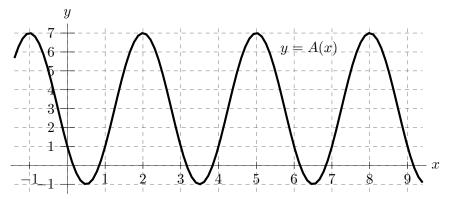**8.** [4 points] Let $A(x)$ be a sinusoidal function, a portion of which is shown in the graph below.

Write a formula for $A(x)$.

Solution: There are many possible formulas. Among the possbilities are the following:

$A(x) = 4\cos\left(\frac{2\pi}{3}(x-2)\right) + 3$ $\qquad$ $A(x) = -4\cos\left(\frac{2\pi}{3}\left(x-\frac{1}{2}\right)\right) + 3$

$A(x) = 4\sin\left(\frac{2\pi}{3}\left(x-\frac{5}{4}\right)\right) + 3$ $\qquad$ $A(x) = -4\sin\left(\frac{2\pi}{3}\left(x-\frac{11}{4}\right)\right) + 3$

Answer: $A(x) =$ $\underline{\qquad 4\cos\left(\frac{2\pi}{3}(x-2)\right) + 3 \qquad}$