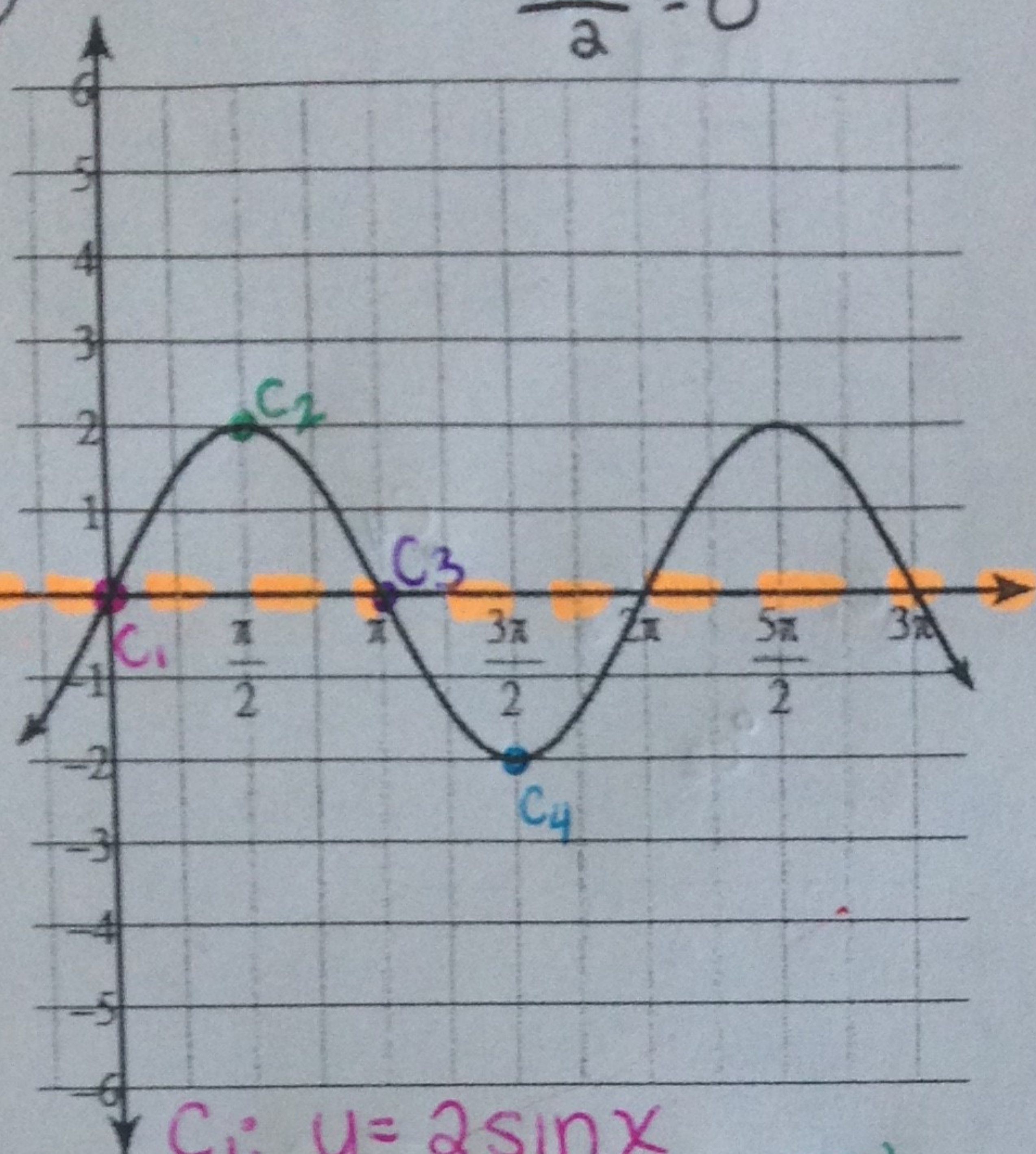


①

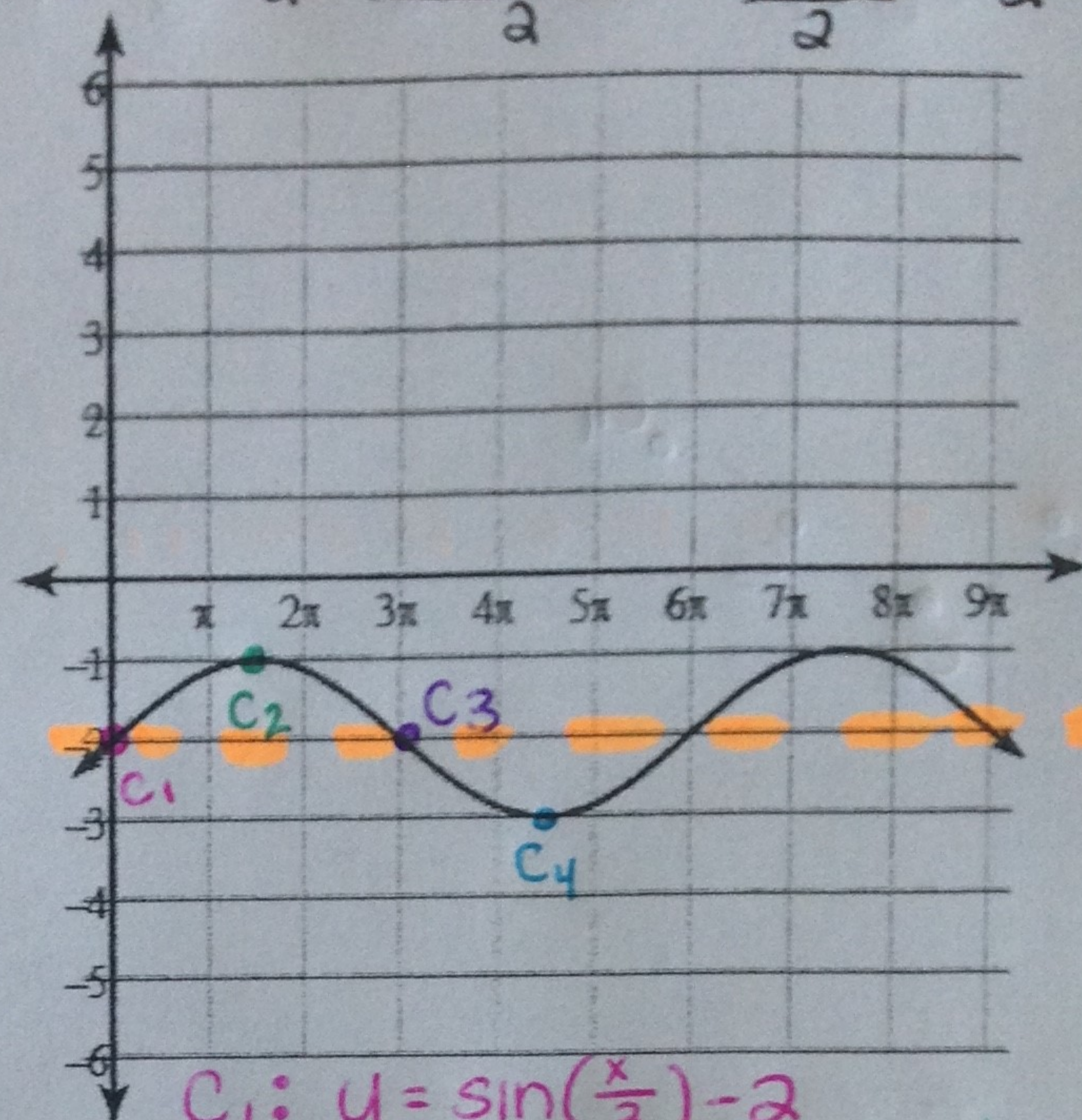
- period: 2π
- $b=1$
- $a=2$
- $d = \frac{\max + \min}{2} = \frac{2-2}{2} = 0$



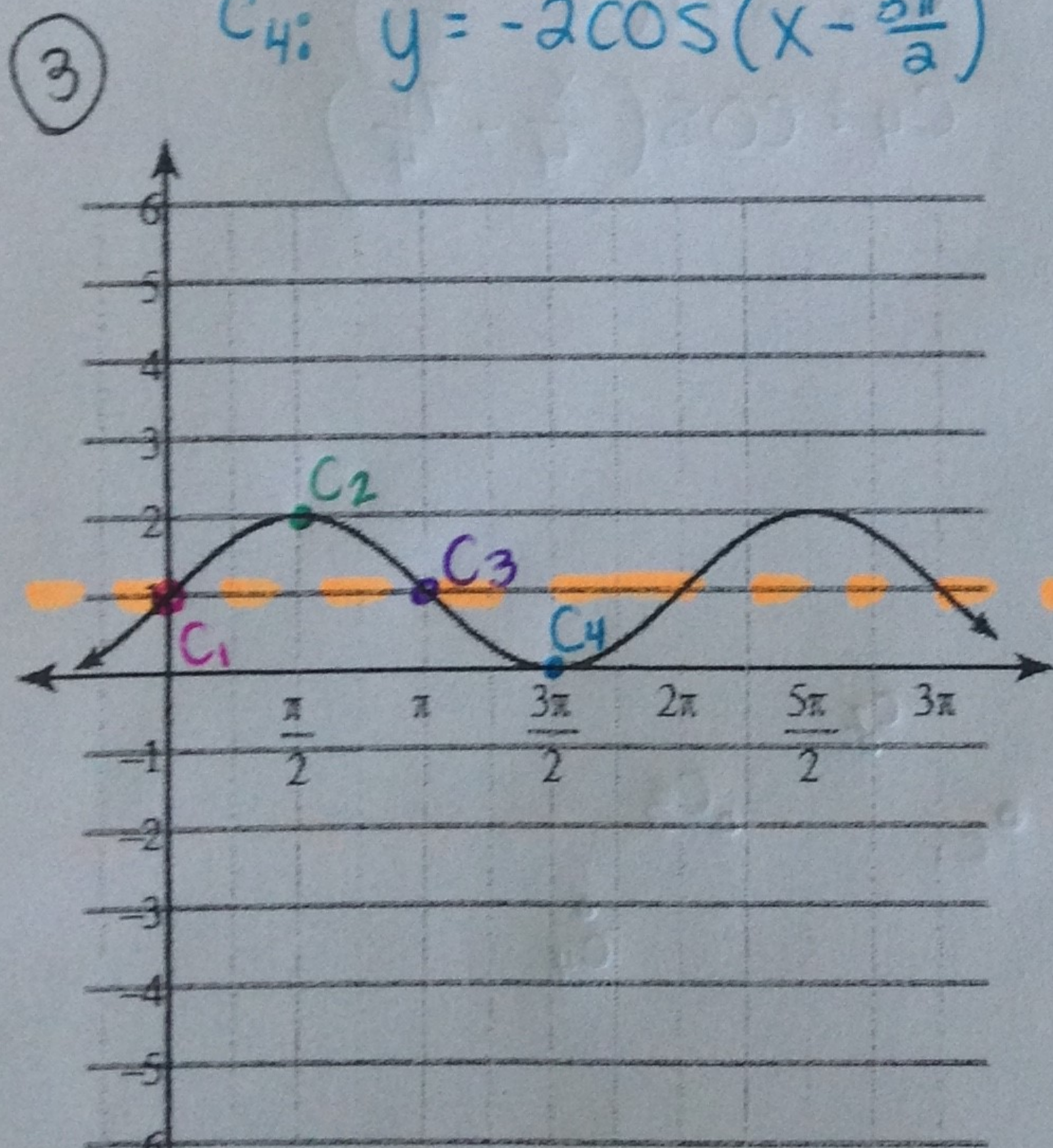
$C_1: y = 2\sin x$
 $C_2: y = 2\cos(x - \frac{\pi}{2})$
 $C_3: y = -2\sin(x - \pi)$
 $C_4: y = -2\cos(x - \frac{3\pi}{2})$

②

- period: 6π
- $b \Rightarrow \frac{2\pi}{b} = 6\pi \Rightarrow b = \frac{1}{3}$
- $a=1$
- $d = \frac{\max + \min}{2} = \frac{-1+3}{2} = -2$

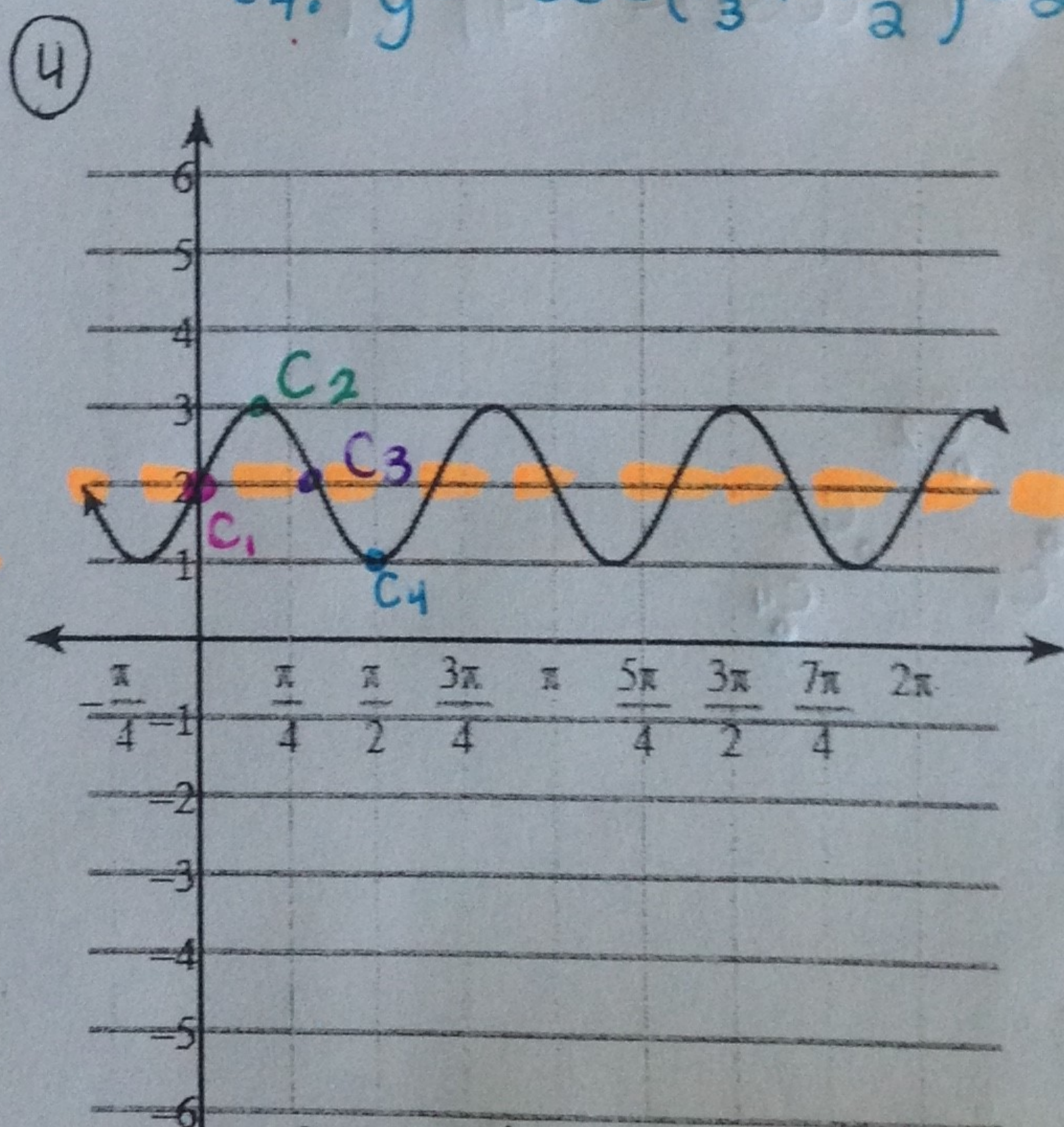


$C_1: y = \sin(\frac{x}{3}) - 2$
 $C_2: y = \cos(\frac{1}{3}(x - \frac{3\pi}{2})) - 2$
 $C_3: y = -\sin(\frac{x}{3} + 3\pi) - 2$
 $C_4: y = -\cos(\frac{x}{3} + \frac{9\pi}{2}) - 2$



• Period: 2π
 • $b=1$
 • $a=1$
 • $d = \frac{\max + \min}{2} = \frac{2+0}{2} = 1$

$C_1: y = \sin x + 1$
 $C_2: y = \cos(x - \frac{\pi}{2}) + 1$
 $C_3: y = -\sin(x + \pi) + 1$
 $C_4: y = -\cos(x - \frac{3\pi}{2}) + 1$



• Period: $\pi/3$
 • $b=3$
 • $a=1$
 • $d = \frac{\max + \min}{2} = \frac{3+1}{2} = 2$

$C_1: y = \sin 3x + 2$
 $C_2: y = \cos 3(x + \frac{\pi}{2}) + 2$
 $C_3: y = -\sin(3x + \pi) + 2$
 $C_4: y = -\cos(3x + \frac{\pi}{2}) + 2$