Name _Key_

Trig Proficiency Check Graphing (2.4)

Make sure to label the quarter values on the x-axis and any values on the y-axis.

1. Write the equation for a sine function with amplitude of 7, period of 3π, and a vertical shift up 4 units. Then graph it.

$A = 7$

$D = 4$

$T = 3\pi$

$3\pi = \dfrac{2\pi}{|B|}$

$$y = 7\sin\left(\dfrac{2x}{3}\right) + 4$$

$B = \dfrac{2\pi}{3\pi} = \dfrac{2}{3}$

2. Draw one cycle of the graph $\quad y = -2\cos x - 5$
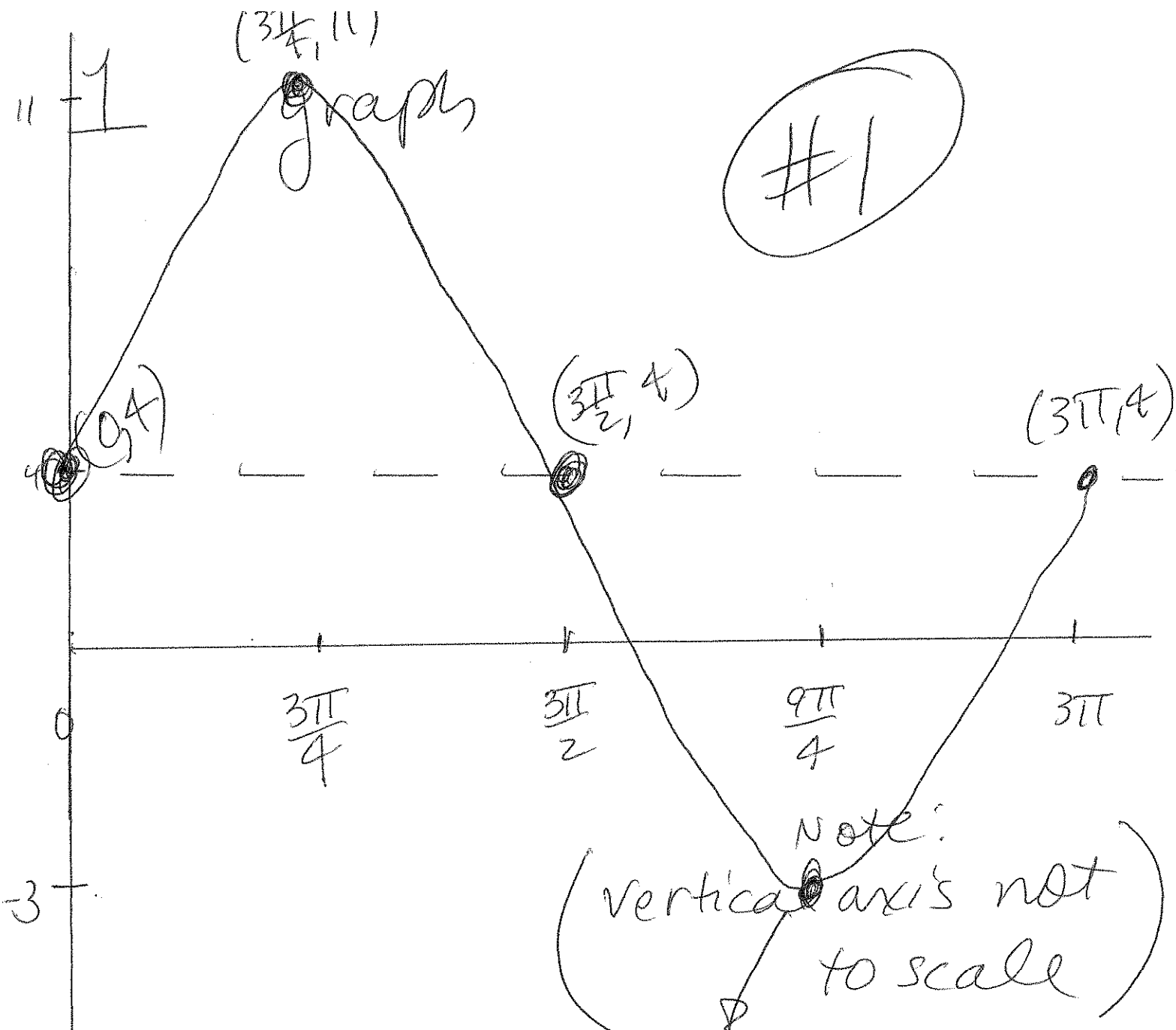
$A = 2$

$T = 2\pi$

$D = -5$

$f(x) = \cos x$

FYI: $\quad y = -2f(x) - 5$

- Reflection over x-axis
- Vertical stretch by a factor of 2
- Vertical shift down 5

Graph on other page.

#1

graph

$(\frac{3\pi}{4}, 11)$

$(0, 4)$

$(\frac{3\pi}{2}, 4)$

$(3\pi, 4)$

$\frac{3\pi}{4}$

$\frac{3\pi}{2}$

$\frac{9\pi}{4}$

3π

11

0

3

Note:
(vertical axis not
to scale)

$(\frac{9\pi}{4}, 3)$ ~~open~~ $[0, 3\pi]$

Graph $[0, 3\pi]$

#2

$$y = -2\cos x - 5$$

Graph is not to scale on vertical axis.