

$$y = \underline{a} \sin \underline{b}(x - c) + d$$

$a$ : amplitude factor

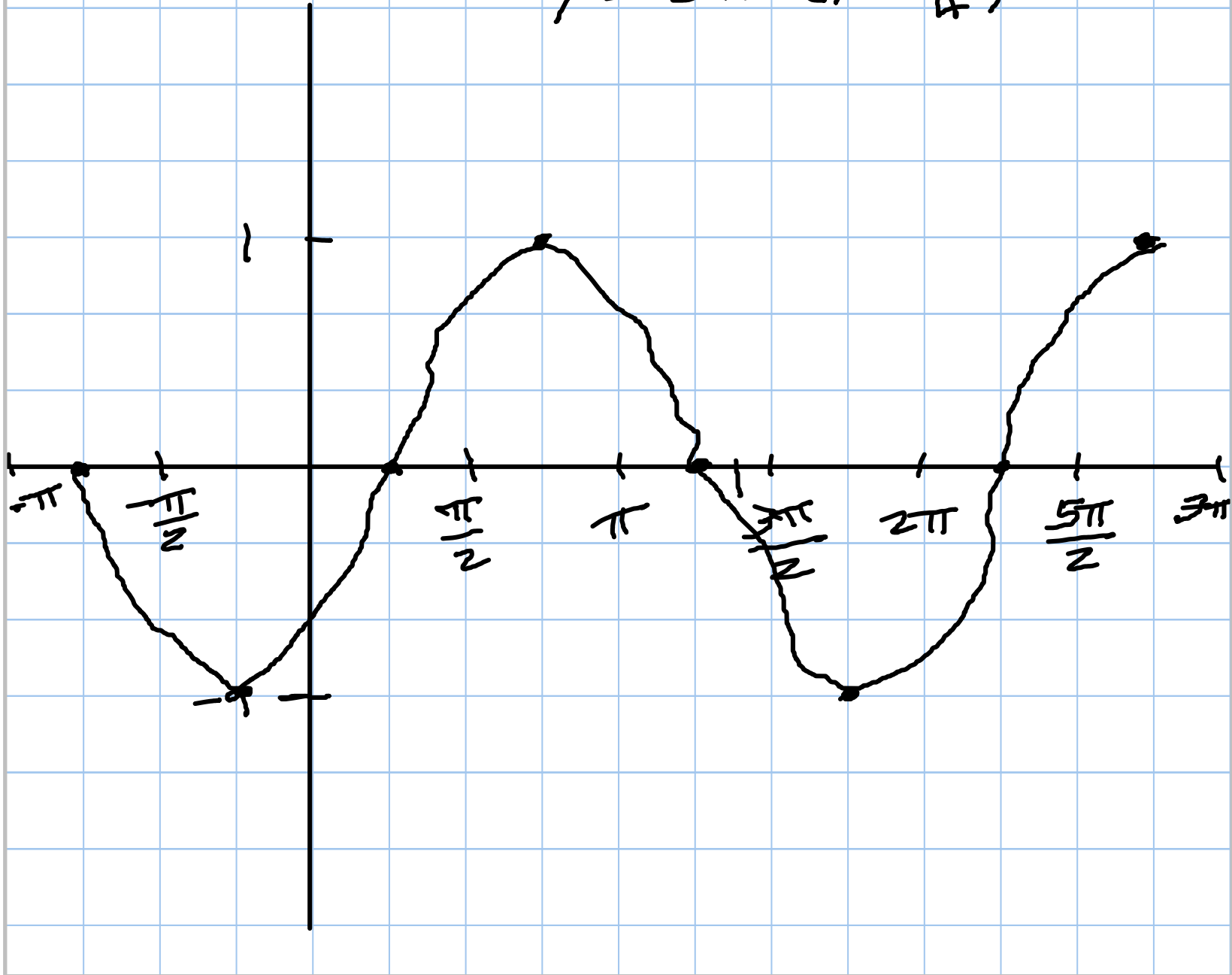
$b$ : periodicity factor

period:  $\frac{2\pi}{b}$

$d$ : vertical shift

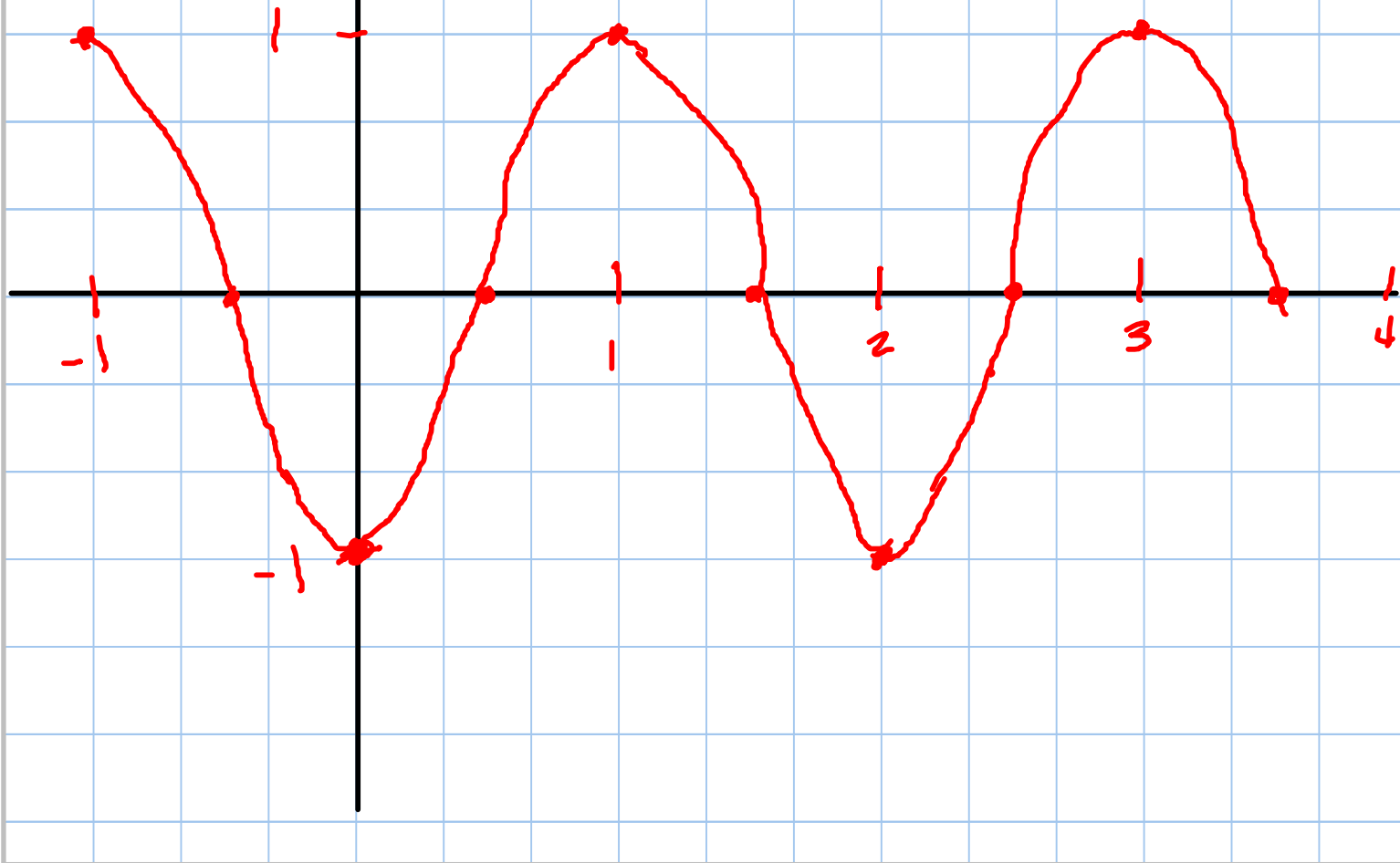
$c$ : horizontal shift

$$y = \sin\left(x - \frac{\pi}{4}\right)$$



$$y = \sin\left(\pi x - \frac{\pi}{2}\right)$$
$$= \sin \pi \left(x - \frac{1}{2}\right)$$

AMP: 1  
PERIOD: 2 rad.  
SHIFT:  $\frac{1}{2} \rightarrow$



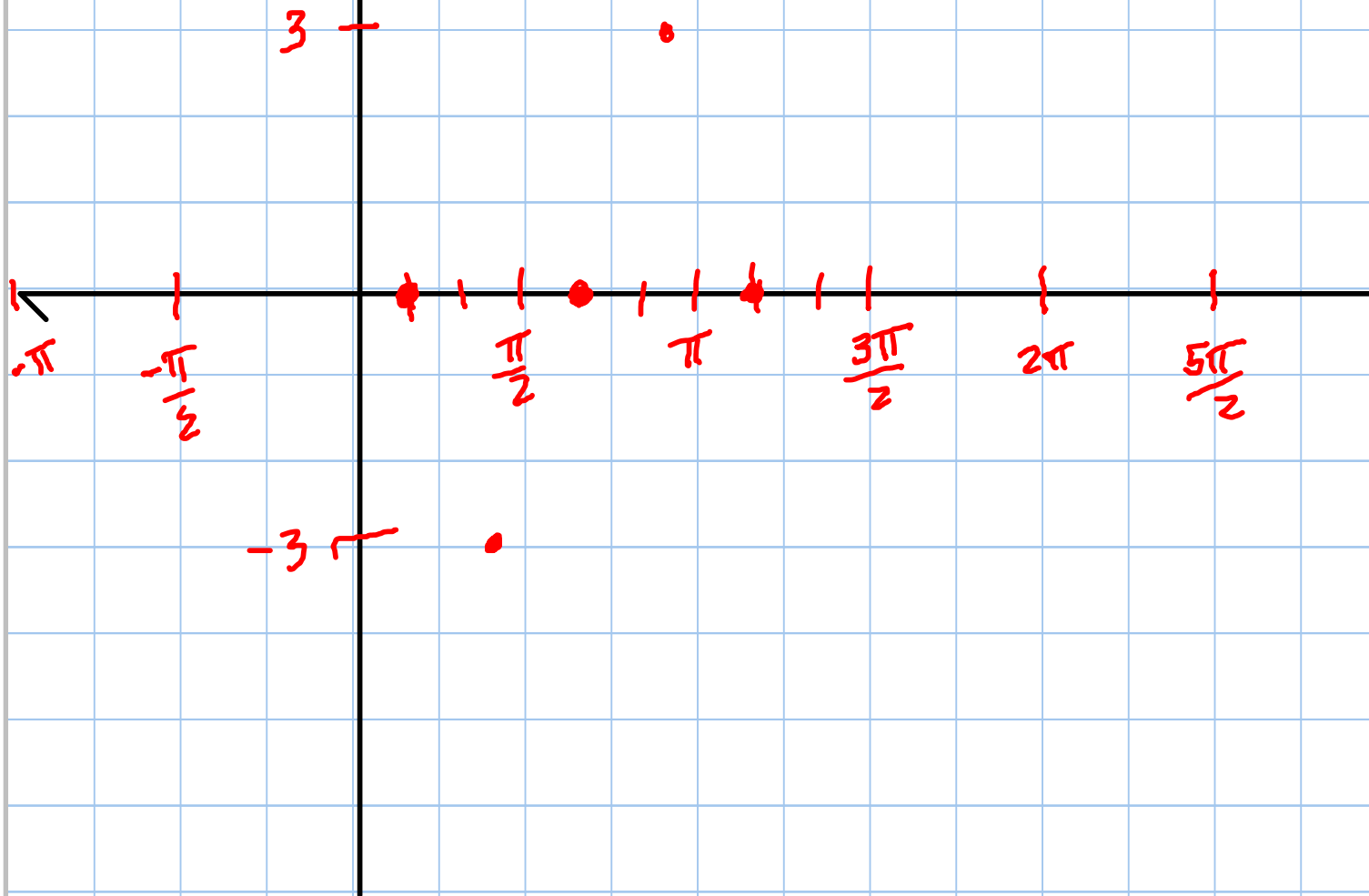
d36.

$$y = -3 \sin\left(2x - \frac{\pi}{3}\right)$$
$$= -3 \sin 2\left(x - \frac{\pi}{6}\right)$$

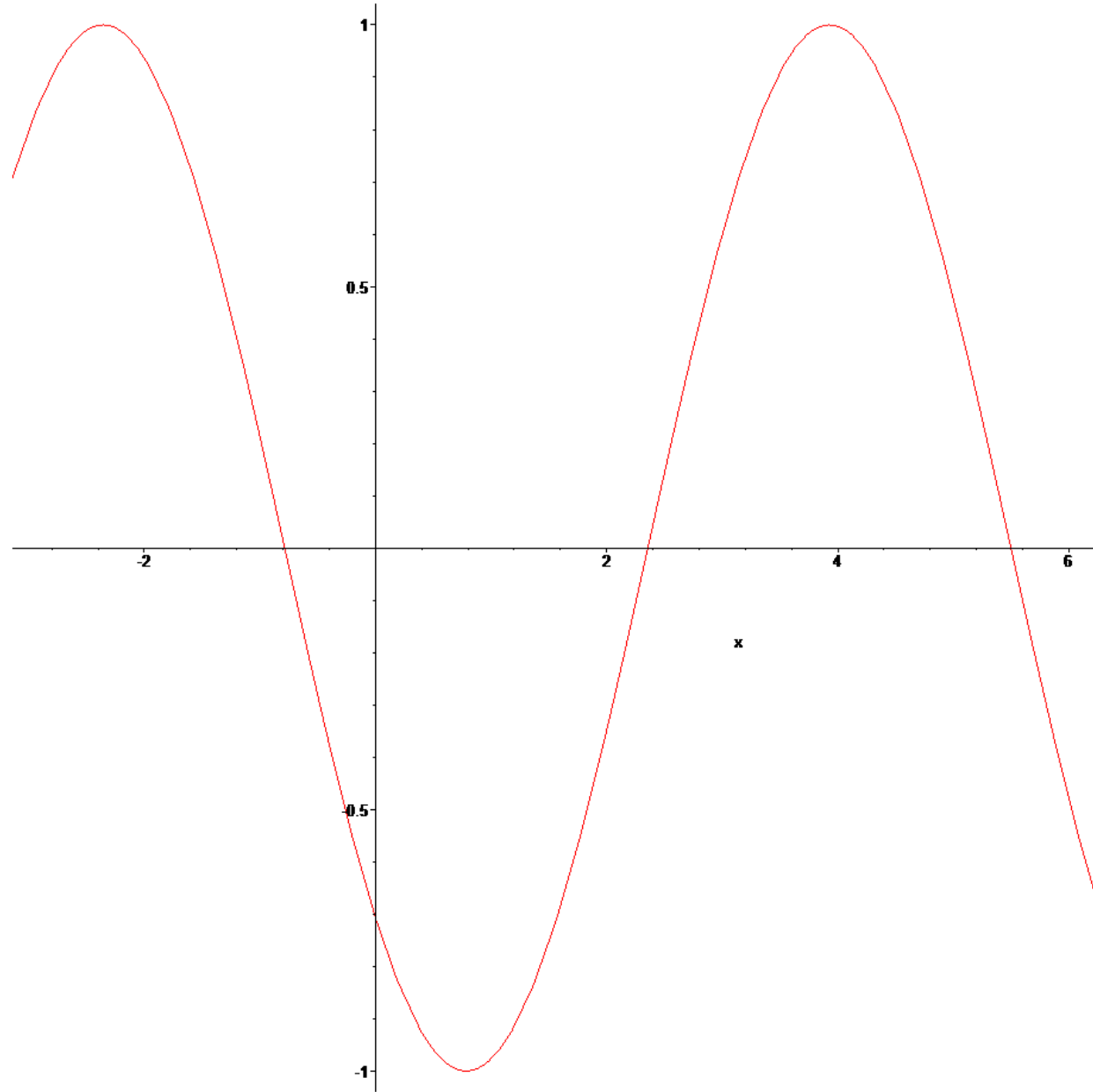
AMPL: -3

PERIOD:  $\pi$

SHIFT:  $\frac{\pi}{6} \rightarrow$



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> plot(-1*cos(x - (Pi/4)), x=-Pi..2*Pi);
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$$y = -\cos\left(2x - \frac{\pi}{2}\right)$$

$$y = -\cos 2\left(x - \frac{\pi}{4}\right)$$