

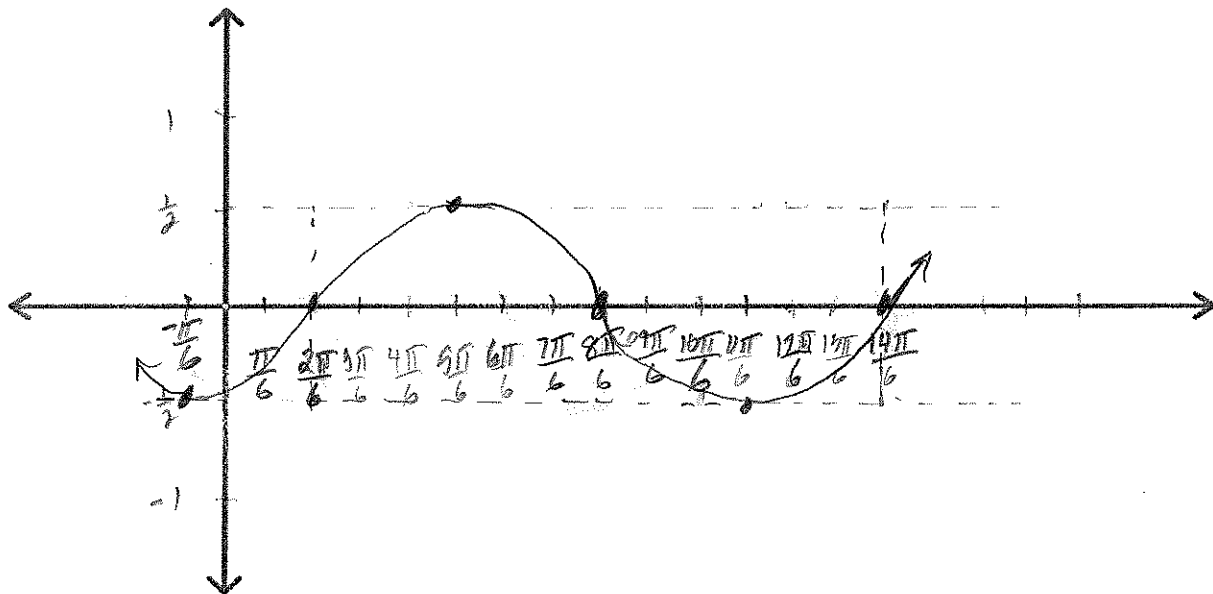
Section 4.5 – Graphs of Sine & Cosine Functions (Day 3)

Sketch graphs of the following. Graph at least two periods! or from 0 to 2π

a) $y = \frac{1}{2} \sin\left(x - \frac{\pi}{3}\right)$

* vertical compress
→ shift right by $\frac{\pi}{3}$

start at $\frac{\pi}{3}$, key points occur every $\frac{\pi}{2}$ ($\frac{3\pi}{6}$)

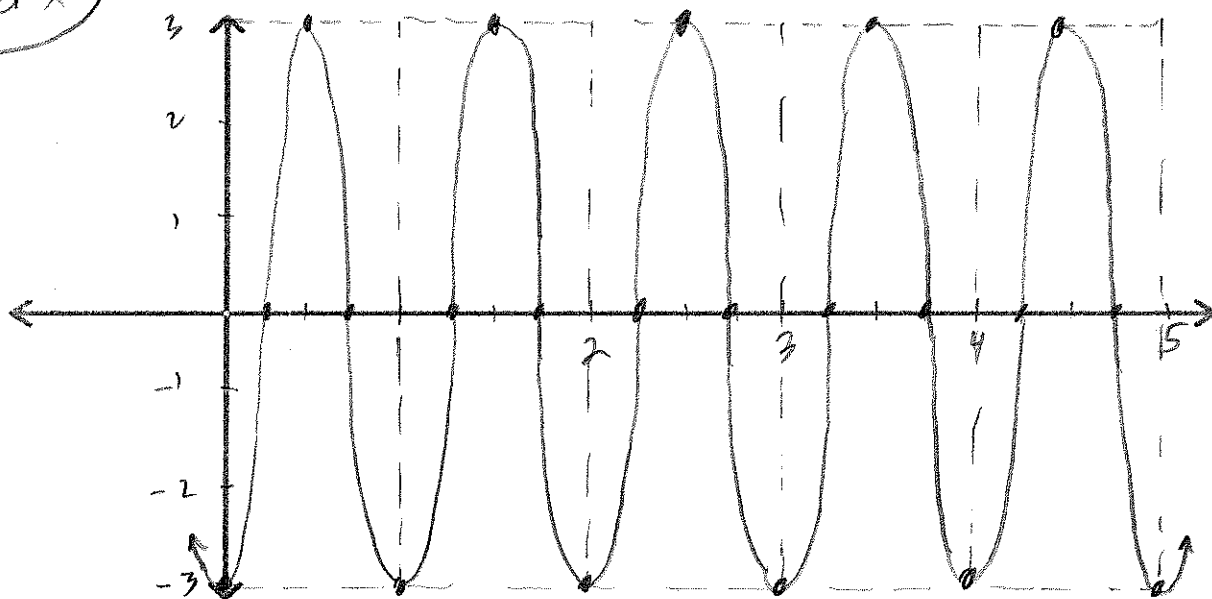


b) $y = -3 \cos(2\pi x)$

Period = $\frac{2\pi}{2\pi} = 1$

$1 \cdot \frac{1}{4} =$ critical pt every $\frac{1}{4}$

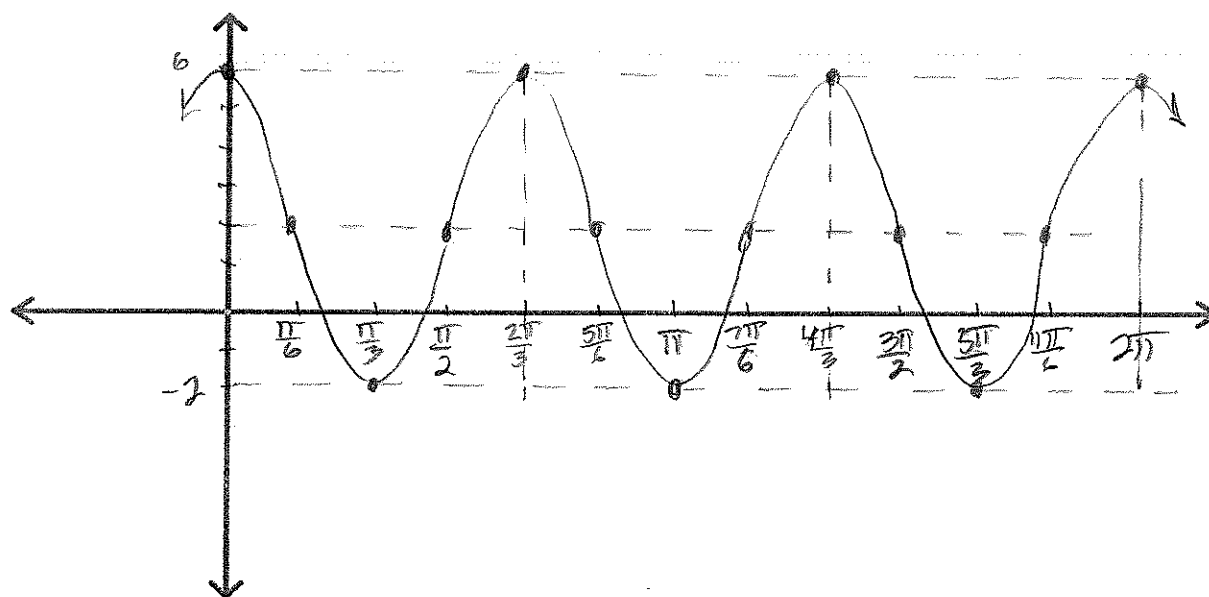
reflect over x
ampl = 3



Section 4.5 – Graphs of Sine & Cosine Functions (Day 3)

sections
 $\frac{2\pi}{3} \cdot \frac{1}{4} = \frac{2\pi}{12} = \frac{\pi}{6}$
 critical pt every π

c) $y = 4\cos 3x + 2$
 amp 4
 Period = $\frac{2\pi}{3}$
 up 2



d) $y = -\sin 2(x - \pi) - 1$
 reflect over x
 Period = $\frac{2\pi}{2} = \pi$
 shift right π
 shift down 1

$\pi \cdot \frac{1}{4} = \text{critical pt every } \frac{\pi}{4}$

