

Find the reflection(s), amplitude, period, phase shift, and vertical shift as appropriate:

1. $y = 3 \sin 2x$ A: 3 period: π

2. $y = \frac{5}{2} \cos \frac{1}{2} x$ A: $5/2$ peri: 4π

3. $y = \frac{1}{2} \sin \frac{\pi}{3} x$ A: $1/2$ peri: 6

4. $y = -3 \cos \frac{1}{3} x$ ref: yes a: 3 per: 6π

5. $y = \frac{2}{3} \sin(+\frac{\pi}{10} x)$ a: $\frac{2}{3}$ per: 20

6. $y = \sin x - 3$ a: 1 per: 2π vs: down 3

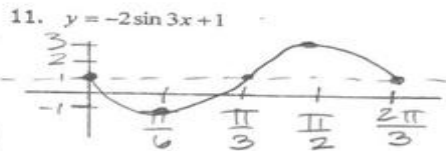
7. $y = \cos(x - \pi)$ a: 1 per: 2π p.s.: $+\pi$

8. $y = -\sin 2x + 4$ ref: yes a: 1 per: π vs: up 4

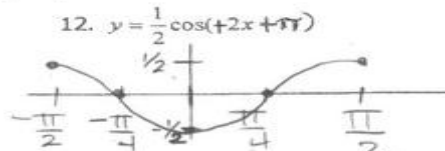
9. $y = -\cos(2x - 4)$ ref: yes a: 1 per: π p.s.: 2

10. $y = 4 \sin \pi x - 3$ a: 4 per: 2 vs: down 3

Sketch one fundamental period of each on the graph provided:



ref: \checkmark
a: 2
p: $\frac{2\pi}{3}$
ps: none
vs: up 1



ref: no
a: $1/2$
p: π
ps: $-\pi/2$
vs: none