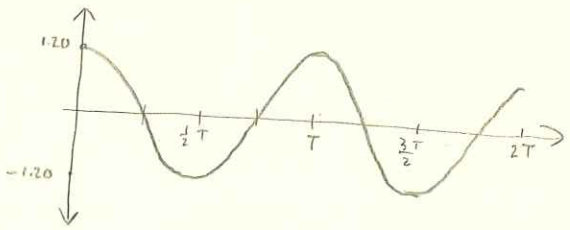
Intro to SHM:

$$\vec{x} = 1.20\cos(6.0t)$$

$\Rightarrow A = 1.20\text{m}$

$\omega = 6.0\text{ rad/s}$



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1. 1.20m

2. $4A = 4.80\text{m}$

* Not $2\pi r$, we are looking at object moving in 1-D!

3. $\omega = \frac{2\pi}{T} = 6.0\frac{\text{rad}}{\text{s}}$

$T = \frac{2\pi}{6.0} = 1.0\text{s}$

4. B
5. A
6. C

7. $v_{max} = \omega A = 6.0\frac{\text{rad}}{\text{s}}(1.20\text{m}) = 7.2\frac{\text{m}}{\text{s}}$

8. $a_{max} = \frac{v^2}{r} = \frac{v^2}{A} = 43\frac{\text{m}}{\text{s}^2}$

9. $\vec{x} = 1.20\cos(\underbrace{6.0(2.0\text{s})}_{\text{RADIANS}}) = 1.0\text{m}$

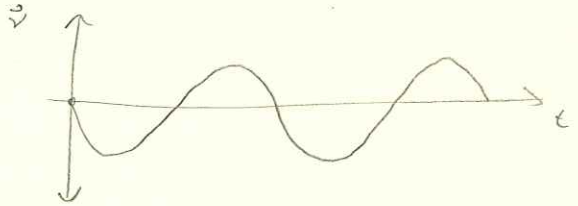
10. $\vec{v} = -7.2\sin(6.0t)$

$\vec{a} = -43\cos(6.0t)$

$$\vec{v} = -2.40\sin(4.8t)$$

$v_{max} = 2.40\frac{\text{m}}{\text{s}}$

$\omega = 4.8\text{ rad/s}$



1. $2.40\frac{\text{m}}{\text{s}}$

2. $\omega = \frac{2\pi}{T}$

$T = \frac{2\pi}{\omega} = 1.3\text{s}$

3. B
4. A
5. C

6. $v = A\omega$

$A = \frac{v}{\omega} = 0.50\text{m}$

7. $a = \frac{v^2}{r} = \frac{v^2}{A} = 14\frac{\text{m}}{\text{s}^2}$

8. $\vec{v} = -2.40\sin(\underbrace{4.8(5.0)}_{\text{RADIANS}}) = +2.2\frac{\text{m}}{\text{s}}$

9. $\vec{x} = 0.40\cos(4.8t)$

$\vec{a} = -14\cos(4.8t)$