

## Physics 121 - Review Answers

Aug 7, 2009

Solutions to the practice test.

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**1.**

a)  $v(t) = -B\omega \sin(\omega t + \frac{\pi}{4})$

b)  $12.6 \text{ m/s}^2$

**2.**

a)  $19.2 \text{ s}^{-1}$

b)  $0.33 \text{ s}$

c)  $92.16 \text{ m/s}^2$

**3.**

Circular angular freq =  $1.99 \times 10^{-7} \text{ s}^{-1}$

Pendulum angular freq =  $1.98 \times 10^{-7} \text{ s}^{-1}$

**4.** 2.3 times greater collecting area

**5.** 154 km/hr

**6.** 2.45gHz

**7.** 31.2 watts lost

**8.** 41,092K

**9.**  $m=0.37 \text{ kg}$

**10.** 2.3mL

**11.** 396,340 J

**12.**  $\alpha = 4 \times 10^{-3} \text{ K}^{-1}$