

física Semana 6

1) $n = 1,100$

$t = 60 \text{ seg}$

$T = ?$

$N = ?$

$$T = \frac{t}{n}$$

$$N = \frac{1}{T}$$

$$T = \frac{60 \text{ seg}}{1,100}$$

$$N = \frac{1}{0.054 \text{ seg}}$$

$$T = 0.054 \text{ seg}$$

$$N = 20 \text{ Hz}$$

2) $n = 150$

$t = 60$

$T = ?$

$$T = \frac{t}{n}$$

$$T = \frac{60}{150}$$

$$T = 0.4 \text{ seg}$$

3) $t = 15 \text{ seg}$ $n = 4$

$\theta = 1440^\circ$

$$\omega = \frac{\theta}{t}$$

$$\omega = \frac{2\pi \text{ rad}}{T}$$

$$\omega = \frac{1,440 \text{ grad}}{15 \text{ seg}}$$

$$\omega = \frac{2(3.14) \text{ rad}}{3.75 \text{ seg}}$$

$$\omega = 96 \text{ grad/seg}$$

$$\omega = 1.67 \text{ rad/seg}$$

$$T = \frac{t}{n}$$

$$T = \frac{15}{4} = 3.75 \text{ seg}$$

$$4) \quad n = 80 \quad t = 60 \text{ sec} \quad T = ? \quad N = ? \quad \theta = 28,800$$

$$\omega = \frac{\theta}{t}$$

$$\omega = 2\pi \text{ rad}$$

$$\omega = \frac{28,800}{60}$$

$$\omega = \frac{2(3.14)}{0.75} \text{ rad/sec}$$

$$\omega = 480 \text{ grad/sec}$$

$$\omega = 8.38 \text{ rad/sec}$$

$$T = \frac{t}{n}$$

$$T = \frac{60}{80}$$

$$T = 0.75 \text{ sec}$$

$$5) \quad n = 121 \quad t = 60 \text{ sec} \quad T = ?$$

$$T = \frac{t}{n}$$

$$T = \frac{60 \text{ sec}}{121}$$

$$T = 0.50 \text{ sec}$$

$$6) \quad n = 3 \quad t = 8 \text{ sec} \quad \theta = 1,080 \text{ grad}$$

$$\omega = \frac{\theta}{t}$$

$$\omega = \frac{2\pi \text{ rad}}{T}$$

$$\omega = \frac{1,080 \text{ grad}}{8 \text{ sec}}$$

$$\omega = \frac{2(3.14) \text{ rad}}{2.67 \text{ sec}}$$

$$\omega = 135 \text{ grad/sec}$$

$$\omega = 2.35 \text{ rad/sec}$$

$$T = \frac{t}{n}$$

$$T = \frac{8 \text{ sec}}{3}$$

$$T = 2.67 \text{ sec}$$

7) $n = 3,200$ $t = 60 \text{ sec}$ $\theta = 1,152,000 \text{ grad}$

$$T = \frac{t}{n}$$

$$T = \frac{60}{3,200}$$

$$T = 0.19 \text{ sec}$$

$$\omega = \frac{\theta}{t}$$

$$\omega = \frac{1,152,000 \text{ grad}}{60 \text{ sec}}$$

$$\omega = 19,200 \text{ grad/sec}$$

$$\omega = \frac{2\pi \text{ rad}}{T}$$

$$\omega = 2(3.14) \text{ rad}$$

$$\omega = 33.07 \text{ rad/sec}$$

8) $n = 4$ $t = 12 \text{ sec}$ $\theta = 1,440$

$$T = \frac{t}{n}$$

$$T = \frac{12 \text{ sec}}{4}$$

$$T = 3 \text{ sec}$$

$$\omega = \frac{\theta}{t}$$

$$\omega = \frac{2\pi \text{ rad}}{T}$$

$$\omega = \frac{1,440 \text{ grad}}{12 \text{ sec}}$$

$$\omega = \frac{2(3.14) \text{ rad}}{3 \text{ sec}}$$

$$\omega = 120 \text{ grad/sec}$$

$$\omega = 2.09 \text{ rad/sec}$$

a) $n = 2,350$ $t = 60 \text{ sec}$ $\theta = 846,000$

$$\omega = \frac{\theta}{t}$$

$$\omega = \frac{846,000}{60 \text{ sec}}$$

$$\omega = 14,100 \text{ grad/sec}$$

10) $T = 0.7 \text{ sec}$ $N = ?$ $t = 60$

$$T = \frac{t}{n}$$

$$N = Tt2$$

$$\theta = 84 \times 360 = 30,240 \text{ grad}$$

$$N = 0.7 \text{ sec} \times 60 \times 2$$

$$N = 84$$

$$\omega = \frac{\theta}{t}$$

$$\omega = \frac{2\pi \text{ rad}}{T}$$

$$\omega = \frac{30,240 \text{ grad}}{60 \text{ sec}}$$

$$\omega = \frac{2(3.14) \text{ rad}}{0.7 \text{ sec}}$$

$$\omega = 504 \text{ grad/sec}$$

$$\omega = 8.98 \text{ rad/sec}$$