

### Respuestas Guía III: Variaciones

**I)**

$$1. y = \frac{1}{5}x$$

$$3. F = \frac{50}{d^2}$$

$$5. v = t$$

$$7. y = \frac{12}{\sqrt{x}}$$

$$2. A = \pi x^2$$

$$4. z = \frac{1}{5}(x^2 + y^2)$$

$$6. V = \frac{1}{9}x^3$$

**II)**

$$8. V = \frac{4\pi}{3}r^3$$

$$18. V = \frac{90000}{P}$$

$$9. c^2 = a^2 + b^2$$

$$V = 450 \text{ para } P = 200$$

$$10. A_{\Delta} = \frac{1}{2}(b \cdot h)$$

$$19. i = \frac{240}{R}$$

$$11. p = 2(l + w)$$

$$i = 24 \text{ para } R = 10$$

$$12. F = G \left( \frac{mM}{R^2} \right)$$

20. Esta está mala esta pregunta

$$13. T = \frac{2\pi}{\sqrt{g}}\sqrt{l} = 2\pi\sqrt{\frac{l}{g}}$$

$$21. I = \frac{3}{10} \left( \frac{1}{d^2} \right)$$

$$I = 0.012cd \text{ para } d = 5m.$$

$$14. y = 5t$$

$$22. V = \pi(r^2h)$$

$$y = 15m. \text{ para } t = 3s.$$

$$23. V = \frac{\pi}{3}(r^2h)$$

$$t = 4s. \text{ para } y = 20m.$$

$$15. v = 10t$$

$$24. F_g = \frac{3977784818}{r^2}$$

$$v = 30 \frac{m}{s} \text{ para } t = 3s.$$

$$F_g = 97.724 N$$

$$\text{para } r = 6380 \text{ Km.}$$

$$16. \Delta y = \frac{3}{20} F_g$$

$$25. K = \frac{1}{2}mv^2$$

$$\Delta y = \frac{9}{4} \text{ para } F_g = 15$$

$$K = 2812.5 \text{ Joule}$$

$$17. v_r = \frac{1536}{5} \left( \frac{1}{l} \right)$$

$$\text{para } v = 15 \frac{m}{s}$$

$$l = \frac{8}{15}m. \text{ para } v_r = 576$$