

Study Guide #2 ANSWERS

$$\textcircled{1} \quad C = 48\pi \text{ in} \\ = 150.8 \text{ in}$$

$$A = (24)^2 \pi \\ A = 576\pi \text{ in}^2 \\ 1809.6 \text{ in}^2$$

$$\textcircled{2} \quad r = 15 \\ A = 225\pi \text{ cm}^2 \\ 706.9 \text{ cm}^2$$

$$\textcircled{3} \quad V = 1440^3$$

$$\textcircled{4} \quad \text{height} = 30 \\ B = 1024 \\ V = 10,240 \text{ in}^3$$

$$\textcircled{5} \quad V = 800\pi \text{ ft}^3 \\ = 2,513.3 \text{ ft}^3$$

$$\textcircled{6} \quad V = 5,700 \text{ cm}^3$$

$$\textcircled{7} \quad r = 18 \\ V = 7,776\pi \text{ cm}^3 \\ 24,429.0 \text{ cm}^3$$

$$\textcircled{8} \quad \text{height of triangle} = 10 \\ B = 120 \\ V = 1,200 \text{ cm}^3$$

$$\textcircled{9} \quad V = 320 \text{ ft}^3$$

$$\textcircled{10} \quad r = 17 \\ S = 1,156\pi \text{ m}^2$$

$$\textcircled{11} \quad 14 \text{ in}$$

$$\textcircled{12} \quad 6 \text{ yd}$$

$$\textcircled{13} \quad 3.5 \text{ in} \quad \textcircled{14} \quad 4.1 \text{ in}$$

$$\textcircled{15} \quad V = 3,780 \text{ in}^3$$

$$\textcircled{16} \quad V = 8,640 \text{ cm}^3 \quad \textcircled{17} \quad V = 15,393.8 \text{ cm}^3 \\ V = 4900\pi$$

$$\textcircled{18} \quad V = 392\pi \text{ yd}^3$$

$$\textcircled{19} \quad 16 \text{ cm}$$

$$\textcircled{20} \quad V = 1,6800^3$$

$$4.) V_{\text{small prism}} = (0.5)(4)(2) \\ = 4$$

$$V_{\text{large prism}} = (1)(6)(2) \\ = 12$$

$$V_{\text{Total}} = 12 + 4 = 16 \text{ ft}^3$$

$$5.) V_{\text{cylinder}} = \pi(2)^2(4) \\ = \pi(2)^2(4) \\ = \pi(4)(4) \\ = 16\pi$$

$$V_{\text{cube}} = (5)^3 \\ = 125$$

$$V_{\text{Total}} = (125 + 16\pi) \text{ in}^3 \\ V_{\text{Total}} = 175.3 \text{ in}^3$$

$$6.) V_{\text{small cone}} = \frac{1}{3}\pi(2)^2(6) \\ \frac{1}{3}\pi(4)(6) \\ = 8\pi$$

$$V_{\text{large cone}} = \frac{1}{3}\pi(2)^2(8) \\ = \frac{1}{3}\pi(4)(8) \\ = \frac{1}{3}\pi(32) \\ = \frac{1}{3}\pi(32) \\ = \frac{32}{3}\pi$$

$$V_{\text{Total}} = 8\pi + \frac{32}{3}\pi = 18\frac{2}{3}\pi \text{ m}^3 \\ = 58.64 \text{ m}^3$$

$$7.) V_{\text{trap prism}} = Bh \\ B = \frac{2(2+5)}{2}$$

$$B = 7$$

$$V_{\text{Trap prism}} = (7)(10) \\ = 70$$

$$V_{\text{Rect prism}} = (3)(5)(10) \\ = 150$$

$$V_{\text{Total}} = 70 + 150 \\ = 220 \text{ cm}^3$$

$$8.) V_{\text{Trian prism}} = Bh$$

$$B = \frac{1}{2}(8)(6)$$

$$B = 24$$

$$V_{\text{TP}} = (24)(10) \\ = 240$$

$$V_{\text{Trian Pyra}} = \frac{1}{3}Bh$$

$$B = \frac{1}{2}(6)(8)$$

$$B = 24$$

$$V_{\text{Trian Py.}} = \frac{1}{3}(24)(6) \\ = 48 \text{ in}^3$$

$$V_{\text{Total}} = 240 + 48 \\ = 288 \text{ in}^3$$

$$\textcircled{9} \quad V_{\text{rec pyra}} = \frac{1}{3} B h$$

$$= \frac{1}{3} (4)(4)$$

$$\frac{160}{3}$$

$$V_{\text{rec pris}} = B h$$

$$= (16)(4)(3)$$

$$= 120$$

$$V_{\text{total}} = \dots$$

$$= \frac{160}{3} + 120$$

$$173.3\bar{3} \text{ ft}^3$$

$$\textcircled{10} \quad V_{\text{Trian prism}} = B h$$

$$B = \frac{1}{2} (5)(6)$$

$$B = 15$$

$$V_{\text{Trian prism}} = (15)(4)$$

$$= 60$$

$$V_{\text{cylinder}} = \pi (1)^2 (4)$$

$$= 4\pi$$

$$V_{\text{total}} = (60 - 4\pi) \text{ ft}^3$$

$$= 47.4 \text{ ft}^3$$

$$\textcircled{11} \quad V_{\text{pyramid}} = \frac{1}{3} B h$$

$$B = (9)(9)$$

$$B = 81$$

$$= \frac{1}{3} (81)(8)$$

$$V_{\text{pyramid}} = 216$$

$$V_{\text{cone}} = \frac{1}{3} \pi (3)^2 (8)$$

$$\frac{1}{3} \pi (9)(8)$$

$$24\pi$$

$$V_{\text{total}} = (216 - 24\pi) \text{ m}^3$$

$$V_{\text{total}} = 140.6 \text{ m}^3$$