PROPOSTA DE RESOLUÇÃO DA FICHA DE TRABALHO
♦REFERENCIAIS NO ESPAÇO♦

1. P (0, 2, 2) Q(1, 1, 2) R(2, 1, 1) S(0, 3, 1)

2. O(0, 0 , 0) E(4, 0, 0) C(0, 8, 0) D(4, 8, 0) A(2, 2, 4) B(2, 6, 4)

3. A(0, - 4, 3) B(0, 0, 3) C(2, 0, 3) D(2, - 4, 3) E(2, -4, 0)
F(0, - 4, 0) G(0,0,0) H(2, 0, 0)

4. a) A(5, 5) B(-5,5) C(-5, -5) D(5, -5)

b) A(0, $5\sqrt{2}$) B(- $5\sqrt{2}$, 0) C(0,- $5\sqrt{2}$) D($5\sqrt{2}$, 0)

c) A (-5, 5, 5) B(-5, -5, 5) C(5, -5, 5) D(5,5,5)
E(-5, 5, -5) F(-5,-5,-5) G(5, -5,-5) H(5,5,-5)

d) $D(0,\sqrt{50},5)$ $C(\sqrt{50},0,5)$ $H(0,\sqrt{50},-5)$ $G(\sqrt{50},0,-5)$
$E(-\sqrt{50},0,-5)$ $F(0,-\sqrt{50},-5)$ $B(0,-\sqrt{50},5)$ $A(-\sqrt{50},0,5)$

5. a) z = 3 $\wedge$ y = 3 **b)** y = 0
c) $0 \le x \le 3 \wedge 0 \le y \le 3 \wedge 0 \le z \le 3$ **d)** ----------

6. a) A(4, 0, 0) B(4, 0, 4) C(0, 0, 4) **b)** y = 0

c) $x^2 + x^2 = 4^2 \Leftrightarrow 2x^2 = 16 \Leftrightarrow x = \sqrt{8}$ e $\sqrt{8}^2 + 6^2 = a^2 \Leftrightarrow a^2 = 44 \Leftrightarrow a = \sqrt{44}$

Perímetro = 4 + $\sqrt{44} + \sqrt{44} = 4 + 2\sqrt{44} = 4 + 2(2\sqrt{11}) = 4 + 4\sqrt{11}$

d) Área total = $A_{base} + A_{lat} = 4^2 + \frac{P_b}{2} \times ap = 16 + \frac{4 \times 4}{2} \times ap = 16 + 8 \times 2\sqrt{10} = 16 + 16\sqrt{10}$
Cálculo da apótema: $ap^2 = 6^2 + 2^2 \Leftrightarrow ap = \sqrt{40} = 2\sqrt{10}$

e) $Volume = \frac{A_b \times h}{3} = \frac{16 \times 6}{3} = 32$

7. a) Determinar o lado do quadrado da base $\sqrt{2}^2 + \sqrt{2}^2 = x^2 \Leftrightarrow x^2 = 4 \Leftrightarrow x = 2$
Como a altura é 6, vem que
Área total = $4^2+4^2+4(4\times6)=128$

b) $B(0,\sqrt{2},6)$ $E(0,-\sqrt{2},0)$ $G(-\sqrt{2},0,6)$ **c)** z = 3

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