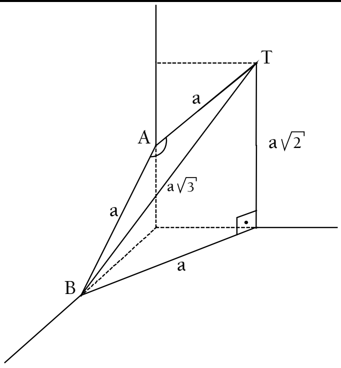
PADRÃO DE RESPOSTAS

Questão	Resposta
1	$\frac{215}{5} = 43$ $43 \times (0{,}03) = 1{,}29$ 155,00 + 1,29 = R$156,29
2	$(1{,}2) \times (0{,}8) \times n = 120$ $n = \frac{120}{0{,}96}$ $n = 125$
3	$(\log_2 x)^2 - \log_{\sqrt[3]{2}} x = 0$ $(\log_2 x)^2 = \log_{2^{\frac{1}{3}}} x$ $(\log_2 x)^2 = 3(\log_2 x)$ $(\log_2 x)(\log_2 x - 3) = 0$ $\log_2 x = 0 \quad \Rightarrow \quad x = 1$ $\log_2 x - 3 = 0 \quad \Rightarrow \quad \log_2 x = 3 \quad \Rightarrow \quad x = 8$ $S = \{1;8\}$
4	$(4;\ 8;\ 12;\ 16;\ldots\ a_n)$ $4+8+12+16+\ldots+ a_n = 10a_n$ $\frac{[4+4+(n-1)4]\times n}{2} = 10\times[4+(n-1)4]$ $(4 + 2n - 2)\ n = 40n$ $n = 19$ $S_{19} = 10 \times a_{19} = 10 \times 19 \times 4 = 760$
5	h_A: altura k h_B: altura $(k - 2)$ Reta A passa pelos pontos (5;0) e (0;k) $\Rightarrow\ y_A = -\frac{k}{5}x + k$ Reta B passa pelos pontos (6;0) e (1; $k - 2$) $\Rightarrow\ y_B = \left(\frac{2-k}{5}\right)x + \left(\frac{6k-12}{5}\right)$ Para $x = 2 \Rightarrow y_A = y_B \Rightarrow -\frac{k}{5}\times 2 + k = \left(\frac{2-k}{5}\right)2 - \frac{12}{5} + \frac{6k}{5}$ $-2k + 5k = 4 - 2k - 12 + 6k \quad \Rightarrow \quad k = 8$ $h_A =$ 8 cm $h_B =$ 6 cm

6	 Triângulo BÂT: $\left(a\sqrt{3}\right)^2 = a^2 + a^2 - 2a \times a \cos\,(\hat{BAT})$ $a^2 = -2a^2 \cos\left(\hat{BAT}\right)$ $\cos\left(\hat{BAT}\right) = -\frac{1}{2} \qquad \hat{BAT} = 120^o$
7	$A = \left\{x; a_2; a_3; a_4; \ldots.., a_{10}\right\}$ 1^o sorteio: $P(x) = \frac{C_{9,2}}{C_{10,3}}$ $C_{9,2} = \frac{9 \times 8}{2 \times 1} = 36$ $C_{10,3} = \frac{10 \times 9 \times 8}{3 \times 2 \times 1} = 120$ $P(X) = \frac{36}{120} = \frac{3}{10}$ $P(X_{juiz}) = \frac{1}{3} \times \frac{3}{10} = \frac{1}{10}$
8	$a_{22} = a_{33} = 1 = 2\,\text{sen}\,\theta_2\,\cos\,\theta_2 = 2\,\text{sen}\,\theta_3\,\cos\,\theta_3$ $\text{sen}\,(2\theta_2) = \text{sen}\,(2\theta_3) = 1$ $\theta_2 = \theta_3 = 45^o$ $a_{12} = a_{13} \Rightarrow 2^a$ coluna é igual a 3^a coluna $\Rightarrow$ determinante $= 0$

9	$V_{PRISMA} = \dfrac{(\overline{EB})(\overline{BD})\text{sen}(E\hat{B}D)}{2} \times \overline{BC}$ Considerando M o ponto médio de $\overline{BC}$: $(VA)^2 = (VM)^2 + (MA)^2 - 2(VM)(MA)\cos(V\hat{M}A)$ $1^2 = \left(\dfrac{\sqrt{3}}{2}\right)^2 + \left(\dfrac{\sqrt{3}}{2}\right)^2 - 2 \times \dfrac{\sqrt{3}}{2} \times \dfrac{\sqrt{3}}{2}\cos(V\hat{M}A)$ $\cos(V\hat{M}A) = \dfrac{1}{3}$ $\text{sen}V\hat{M}A = \dfrac{2\sqrt{2}}{3}$ $\text{sen}(V\hat{M}A) = \text{sen}(E\hat{B}D)$ $V_{PRISMA} = 1 \times 1\dfrac{2\sqrt{2}}{3} \times \dfrac{1}{2} \times 1 = \dfrac{\sqrt{2}}{3}\text{m}^3$
10	$P(1) = 0 \qquad P(-2) = 0$ $1^4 - 3 \times 1^3 + 2 \times 1^2 + 16 \times 1 + m = 0$ $m = -16$ $x^4 - 3x^3 + 2x + 16x - 16 = 0$ $(x+2)(x-1)(x^2 - 4x + 8) = 0$ $x^2 - 4x + 8 = 0$ $x = \dfrac{4 \pm \sqrt{-16}}{2} = 2 \pm 2i$ $S = \{-2; 1; 2+2i; 2-2i\}$