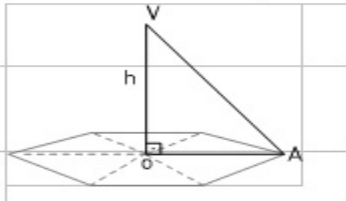


Questão	Matemática 10/12/2006 - Resposta
1	$\text{mmc}(12, 15) = 60$ $2000 < 1089 + 60k \leq 2100 \Rightarrow k = 16 \Rightarrow \text{ano } 2049$
2	$12x = 6z \Rightarrow \begin{matrix} z = 2x \\ y = 2x \end{matrix}$ Conjunto-solução = $\{(t, 2t, 2t) \mid t \in \mathbb{R}\}$ . $x = 1, y = 2, z = 2$
3	2, 6, 18, 54, ... P.G. de razão 3 $a_{10} = 2 \times 3^9 = 39366$
4	Probabilidade de ocorrer par e par $\Rightarrow P_1 = \frac{1}{16}$ Probabilidade de ocorrer ímpar e ímpar $\Rightarrow P_2 = \frac{9}{16}$ Probabilidade de ocorrer soma par $\Rightarrow P_1 + P_2 = \frac{10}{16} = \frac{5}{8}$
5	Ângulo $\mid \mid 45^\circ$ Setor circular $\Rightarrow S_1 = \frac{1}{8} \pi r^2 = \frac{100\pi}{8} \text{ cm}^2$ Triângulo $\Rightarrow S_2 = \frac{1}{2} ab \text{ sen}\theta = \frac{100\sqrt{2}}{4} = 25\sqrt{2} \text{ cm}^2$ Área retirada $\Rightarrow 8(S_1 - S_2) = 8 \left( \frac{100\pi}{8} - \frac{100\sqrt{2}}{4} \right) = 100(\pi - 2\sqrt{2}) \text{ cm}^2$
6	$\overline{AE}^2 = 10^2 + 10^2 - 2 \times 10^2 \cos 45^\circ$ $\overline{AE} = \sqrt{200 - 100\sqrt{2}} \text{ cm}$ $\overline{OV}^2 + \overline{OA}^2 = \overline{AV}^2 \Rightarrow \overline{OV} = 10\sqrt{\sqrt{2} - 1} \text{ cm}$ 
7	$P \times 2^{30} = 30 \times 10^9$ $\log(P \times 2^{30}) = \log(30 \times 10^9)$ $\log P + 30 \log 2 = 10 + \log 3$ $\log P = 1,447$ $P = 28$

$$y = ax^2 + 5,6$$

8

$$16a + 5,6 = 0 \Rightarrow a = -0,35$$

$$y = -0,35x^2 + 5,6 = 2,45$$

$$x = 3\text{m}$$

9

$$6 \times 6 \times 5 \times 4 = 720$$

10

$$2x^3 - 2x^2 - 29x - 55 = 0$$

5	2	-2	-29	-55
	2	8	11	0

 $\Rightarrow \text{base} = 5$ 

$$2x^2 + 8x + 11 = 0$$

$$x = \frac{-4 \pm i\sqrt{6}}{2}$$