

1 解答

[問 1] (a) 45.5

(b) $1000001_{(2)}$

(c) 248

[問 2] (a) $x = 22, y = -4, \text{ など}$

(b) $x = 60m + 22, y = -11m - 4$ (m は整数)

(c) 11

2 解答

[問 1] $x = \frac{1}{2}, y = 2, z = \frac{1}{4}$ のとき最小値 $\frac{3}{2}$

[問 2] (証明略)

等号は, $bx = ay, cy = bz, az = cx$ のとき, 成り立つ。

[問 3] $x = \frac{1}{2}, y = 1, z = \frac{\sqrt{3}}{2}$ のとき最大値 4

$x = -\frac{1}{2}, y = -1, z = -\frac{\sqrt{3}}{2}$ のとき最小値 -4

3 解答

[問 1] $d_1 = \frac{|3a + 4b - 10|}{5}, d_2 = \frac{|4a - 3b - 10|}{5}$

[問 2] $y = \frac{x}{7}, y = -7x + 20$

[問 3] $y = 8x$

[問 4] $x^2 + y^2 = 4$

4 解答

[問 1] $l_1: y = \frac{\sqrt{2ex}}{2e}, P\left(\sqrt{e}, \frac{\sqrt{2}}{2}\right)$

[問 2] $l_2: y = -\sqrt{2ex} + e\sqrt{2} + \frac{\sqrt{2}}{2}, Q\left(\sqrt{e} + \frac{\sqrt{e}}{2e}, 0\right)$

[問 3] $\pi\left(\frac{\sqrt{e}(1 - 6e) + 12e}{12e}\right)$