

チャックテスト 11/16

1. (1) $x = \sqrt{3^2 + 4^2 + 5^2}$
 $= \sqrt{9 + 16 + 25}$
 $= \sqrt{50}$
 $= 5\sqrt{2} \text{ cm} \quad (4)$

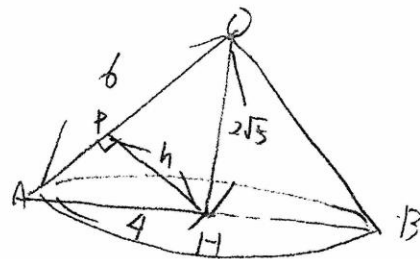
(2) 立体の底面積を $a \text{ cm}^2$ とする

$$\begin{aligned} \sqrt{3} a &= 2\sqrt{6} & V &= a^3 \\ a &= \frac{2\sqrt{6}}{\sqrt{3}} & &= (2\sqrt{2})^3 \\ a &= 2\sqrt{2} & &= 8 \times 2\sqrt{2} \\ & & &= 16\sqrt{2} \text{ cm}^3 \quad (4) \end{aligned}$$

2.

(1) $OH = \sqrt{6^2 - 4^2}$
 $= \sqrt{36 - 16}$
 $= \sqrt{20}$
 $= 2\sqrt{5}$

$$\begin{aligned} V &= \pi \times 4^2 \times 2\sqrt{5} \times \frac{1}{3} \\ &= \frac{32\sqrt{5}}{3} \pi \text{ cm}^3 \quad (4) \end{aligned}$$



(3) $\triangle OAH$ の面積を 2 通り求め、
 で表す

$$\begin{aligned} (2) S &= \pi \times 6^2 \times \frac{4}{6} + \pi \times 4^2 \times 6 \times \frac{1}{2} = 4 \times 2\sqrt{5} \times \frac{1}{2} \\ &= 24\pi + 16\pi \\ &= 40\pi \text{ (cm}^2\text{)} \quad (4) \end{aligned}$$

$$\begin{aligned} h &= \frac{4 \times 2\sqrt{5}}{6} \\ h &= \frac{4\sqrt{5}}{3} \text{ cm} \quad (4) \end{aligned}$$

昨年の男子を a 人、昨年の女子を b 人とすると、

$$\begin{cases} a \times (1 + \frac{8}{100}) = x \\ b \times (1 - \frac{5}{100}) = y \end{cases} \rightarrow \begin{cases} a = \frac{100}{108} x \\ b = \frac{100}{95} y \end{cases}$$

(i) $\frac{100}{108} x + \frac{100}{95} y = 420 \quad (42)$

$(\frac{25}{27} x + \frac{20}{19} y = 420)$

$\begin{cases} x = 216 \dots (ii) \\ y = 209 \dots (iii) \end{cases}$

$\begin{cases} \frac{25}{27} x + \frac{20}{19} y = 420 \dots (1) \\ x - y = 425 \dots (2) \end{cases}$

$\begin{aligned} (1) & \div 5 \times 513 - (2) \times 95 \\ 95x + 108y &= 43092 \\ 95x + 95y &= 40375 \\ \hline 13y &= 2717 \\ y &= 209 \end{aligned}$

$\begin{aligned} x &= 425 - 209 \\ &= 216 \end{aligned}$

$\begin{cases} x = 216 \\ y = 209 \end{cases}$

(42点)

解答

+0.5
93

① 縦横
② 輸送
③ 余裕

④ 慎重
⑤ 肥料

① いじ
② ちんちよう

③ こうしよう

(2) ① 攻勢
② 後世
① 志向
② 試行

四、
①

<Challenge!>

(7) $A(4, 8)$ と $y = ax^2 + 1$

$8 = 16a$

$a = \frac{1}{2}$

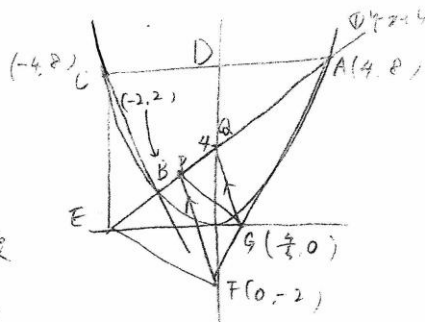
(+2)

(1) $C(-4, 8) B(-2, 2)$ を通る直線

$$\begin{cases} 8 = -4a + b \\ 2 = -2a + b \end{cases}$$

$$\begin{aligned} 2 &= -2 \times (-3) + b \\ 2 &= 6 + b \\ b &= -4 \\ y &= -3x - 4 \end{aligned}$$

$$\begin{cases} m = -3 \dots (i) \\ n = -4 \dots (ii) \end{cases}$$



対称軸

(7) $A(4, 8)$ と $F(0, -2)$ を通る直線

$8 = 4a - 2$

$a = \frac{5}{2}$

$y = \frac{5}{2}x - 2$ に $y = 0$ を代入
 $0 = \frac{5}{2}x - 2$

$$\begin{aligned} \frac{5}{2}x &= 2 \\ x &= 2 \times \frac{2}{5} \\ x &= \frac{4}{5} \end{aligned}$$

$G(\frac{4}{5}, 0)$

① 直線 $y = x + 4$ の切片を $Q(0, 4)$ とすると、

② G を式 $y = ax + 4$ に $G(\frac{4}{5}, 0)$ を代入

$0 = \frac{4}{5}a + 4$

$a = -4 \times \frac{5}{4}$

$a = -5$

③ $y = -5x + 4$

$F(0, -2)$ を通り G に平行な直線

$y = -5x - 2$ (PFの式)

②の直線 $y = x + 4$ の交点を P

$$\begin{cases} y = -5x - 2 \\ y = x + 4 \end{cases}$$

$x + 4 = -5x - 2$

$6x = -6$
 $x = -1$

A. $x = -1$ (+5)