

<解> PART20

$$\boxed{1} \text{ (ア) (与式)} = \frac{3a^3b - 4b^2}{8ab}$$

$$= \frac{3a^2b^2}{2}$$

$$\text{(イ) (与式)} = x^2 - 2x + 1 - 3x - 15$$

$$= x^2 - 5x - 14$$

$$= \underline{(x-7)(x+2)}$$

$$\text{(ウ) (与式)} \begin{cases} 16x - 20y + 6x - 15y = 10 \\ 3x - 5y = 0 \end{cases} \longrightarrow \begin{cases} 22x - 35y = 10 & 30 - 5y = 0 \\ 21x - 35y = 0 & \underline{y = 6} \end{cases}$$

$$x = \underline{10}$$

$$\text{(エ)} 3 \times 8 = 24 \text{ より、 } y = \frac{24}{x}$$

よって、 $2 \leq x \leq 6$  のとき、 $4 \leq y \leq 12 \rightarrow \underline{a=4, b=12}$

$$\boxed{2} \text{ (ア) } \sqrt{2008-8n} = \sqrt{8(251-n)} = 2\sqrt{2(251-n)}$$

$251-n = 2k^2$  ( $k$  は自然数) とおくと、

$$n = 251 - 2k^2$$

これを満たす最小の自然数  $n$  は、 $k = 11$  のとき、

$$n = 251 - 2 \times 121$$

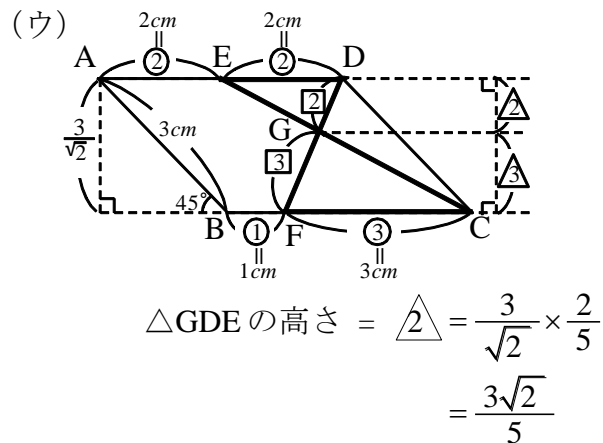
$$= 251 - 242$$

$$= \underline{9}$$

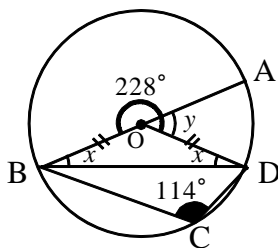
(イ)

	1	1	2	3	4	5
2	3	3	4	5	6	7
3	4	4	5	6	7	8
4	5	5	6	7	8	⑨
5	6	6	7	8	⑨	⑩
6	7	7	8	⑨	⑩	⑪
6	7	7	8	⑨	⑩	⑪

$$\frac{9}{36} = \frac{1}{4}$$



(エ)



$$y = 228 - 180$$

$$= 48^\circ$$

$$x = 48 \times \frac{1}{2}$$

$$= \underline{24^\circ}$$

よって、 $\triangle GDE = 2 \times \frac{3\sqrt{2}}{5} \times \frac{1}{2}$

$$= \underline{\frac{3\sqrt{2}}{5} \text{ cm}^2}$$