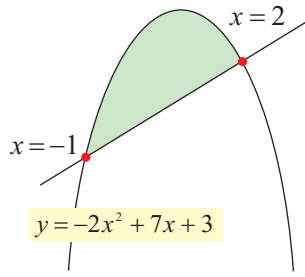


解答①

$$S = \frac{|a|}{6} (\beta - \alpha)^3 \text{ より}$$

$$S = \frac{|-2|}{6} \{2 - (-1)\}^3 = 9$$



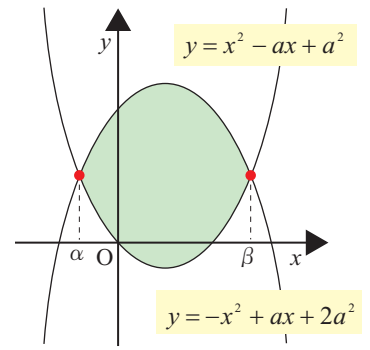
解答⑥

交点は、解の公式より

$$x = \frac{a \pm \sqrt{a^2 + 2a^2}}{2} = \frac{1 \pm \sqrt{3}}{2} a$$

$$S = \frac{|a| + |p|}{6} (\beta - \alpha)^3 \text{ より}$$

$$S = \frac{1 + |-1|}{6} \left(\frac{1 + \sqrt{3}}{2} a - \frac{1 - \sqrt{3}}{2} a \right)^3 = \frac{1}{3} (\sqrt{3}a)^3 = \sqrt{3}a^3$$

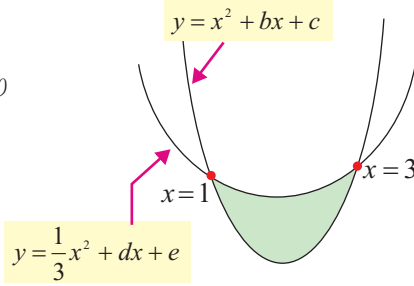


解答②

$$S = \frac{|a| - |p|}{6} (\beta - \alpha)^3 \text{ より}$$

$$= \frac{1 - \frac{1}{3}}{6} (3 - 1)^3$$

$$= \frac{8}{9}$$



解答⑦

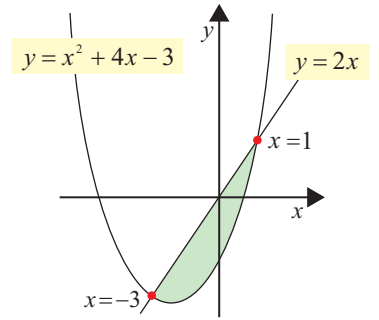
交点は、 $x^2 + 4x - 3 = 2x$

$$(x+3)(x-1) = 0$$

$$\therefore x = -3, 1$$

$$S = \frac{|a|}{6} (\beta - \alpha)^3 \text{ より}$$

$$S = \frac{1}{6} \{1 - (-3)\}^3 = \frac{32}{3}$$

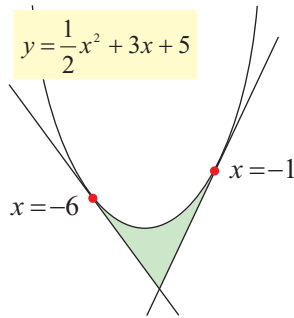


解答③

$$S = \frac{|a|}{12} (\beta - \alpha)^3 \text{ より}$$

$$S = \frac{1}{2} \cdot \frac{1}{12} \{-1 - (-6)\}^3$$

$$= \frac{125}{24}$$



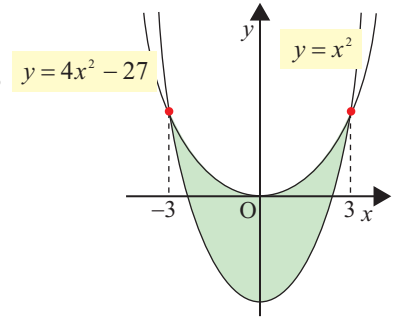
解答⑧

交点は、 $4x^2 - 27 = x^2$

$$(x-3)(x+3) = 0 \therefore x = \pm 3$$

$$S = \frac{|a| - |p|}{6} (\beta - \alpha)^3 \text{ より}$$

$$S = \frac{(4-1)}{6} \{3 - (-3)\}^3 = 108$$



解答④

①を変形して

$$y = (x-2)^2 - 1 \text{ 軸は、} x=2$$

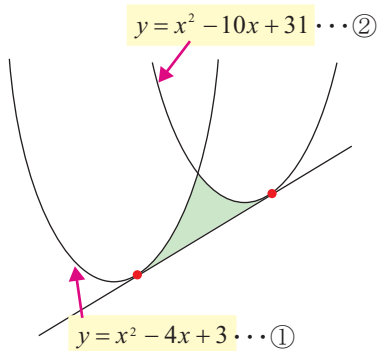
②を変形して

$$y = (x-5)^2 + 6 \text{ 軸は、} x=5$$

$\beta - \alpha = \text{軸の差なので}$

$$S = \frac{|a|}{12} (\beta - \alpha)^3 \text{ より}$$

$$S = \frac{1}{12} (5-2)^3 = \frac{9}{4}$$



解答⑨

①と②の交点は

$$x-1 = x^2 - x$$

$$(x-1)^2 = 0 \therefore x=1$$

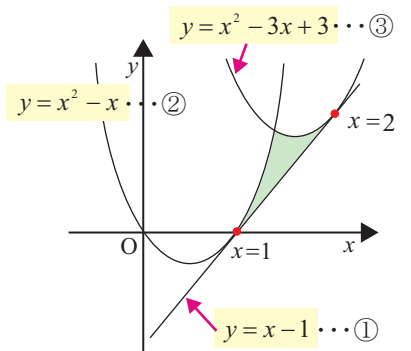
①と③の交点は

$$x-1 = x^2 - 3x + 3$$

$$(x-2)^2 = 0 \therefore x=2$$

$$S = \frac{|a|}{12} (\beta - \alpha)^3 \text{ より}$$

$$S = \frac{1}{12} (2-1)^3 = \frac{1}{12}$$

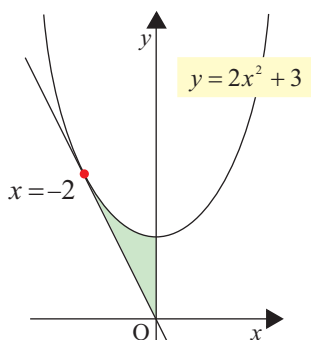


解答⑤

$$S = \frac{|a|}{3} (\beta - \alpha)^3$$

$$S = \frac{2}{3} \{0 - (-2)\}^3$$

$$= \frac{16}{3}$$



解答⑩

①と②の交点は

$$x^2 = 4x - 4$$

$$(x-2)^2 = 0 \therefore x=2$$

①と③の交点は

$$x^2 = -4x - 4$$

$$(x+2)^2 = 0 \therefore x=-2$$

$$S = \frac{|a|}{12} (\beta - \alpha)^3 \text{ より}$$

$$S = \frac{1}{12} \{2 - (-2)\}^3 = \frac{16}{3}$$

