

- 1 (i) ア.3    イ.6                      (ii) ウ.16    エ. $\frac{1}{4}$   
(iii) オ.(2, 4), (3, 12)                      (iv) カ.609  
(v) キ. $\frac{7}{27}$                                       (vi) ク. $\frac{1+\sqrt{3}}{2}$   
(vii) ケ. $\frac{9}{5}$                                       (viii) コ. $(-1, 1), \left(\frac{3}{2}, -4\right)$

□2 (i)  $m_1: y=2\alpha x - \alpha^2 - 1$

(ii)  $\alpha + \beta = k$

(iii)  $\left(\frac{1}{2}k, -2\right)$

(iv)  $L = \frac{3}{2}$

(v)  $H\left(-\frac{3}{5}, -\frac{6}{5}\right)$

□3 (i)  $AC = 2\cos\alpha$

(ii)  $l = 4\cos\alpha + 4\sin\alpha\cos\alpha$

(iii)  $S = 4\sin\alpha\cos^3\alpha$

(iv)  $r = \frac{2S}{l}$

(v)  $r = 2\sin\alpha(1 - \sin\alpha)$