

問題 1

- (1) $a = 8$
- (2) $y = 12x - 16$
- (3) $\frac{8}{3}$

問題 2

- (1) $\overrightarrow{MN} = \frac{1}{2}\vec{a} + \frac{2}{3}\vec{b}$, $\overrightarrow{ML} = \frac{1}{2}\vec{a} + \vec{b} + \frac{2}{5}\vec{c}$, $\overrightarrow{MK} = -\frac{1}{2}\vec{a} + k\vec{c}$
- (2) $k = \frac{4}{5}$
- (3) $\frac{2}{5} \leq k < 1$

問題 3

- (1) $a_{k+2} = \frac{a_k}{4}$, $a_{k+3} = \frac{a_k}{4} + 1$
- (2) $a_{3\ell-2} = \frac{4}{3} \left(1 - \frac{1}{4^\ell}\right)$

問題 4

- (1) $\frac{15}{64}$
- (2) $\frac{25}{324}$
- (3) $\frac{13}{40}$