

**Factorise completely: (Grouping)**

(1)  $2am + 3m + 24k + 16ak$

$$= m(2a + 3) + 8k(3 + 2a)$$

$$= m(2a + 3) + 8k(2a + 3)$$

$$= (2a + 3)(m + 8k)$$

(2)  $8ab^2 - 4ab + p - 2bp$

$$= 4ab(2b - 1) - p(-1 + 2b)$$

$$= 4ab(2b - 1) - p(2b - 1)$$

$$= (2b - 1)(4ab - p)$$

(3)  $5k - 5p + mk - mp - ak + ap$

$$= 5(k - p) + m(k - p) - a(k - p)$$

$$= (k - p)(5 + m - a)$$

(4)  $4y^2 - y - 7 + 28y$

$$= y(4y - 1) + 7(-1 + 4y)$$

$$= y(4y - 1) + 7(4y - 1)$$

$$= (4y - 1)(y + 7)$$

(5)  $k(3m - n) - (n - 3m)$

$$= k(3m - n) - (-1)(3m - n)$$

$$= k(3m - n) + 1(3m - n)$$

$$= (3m - n)(k + 1)$$

$$\begin{aligned}
 (6) \quad & \underline{1 - t^5} + \underline{pt - pt^6} \\
 &= \underline{1(1 - t^5)} + \underline{pt(1 - t^5)} \\
 &= \underline{(1 - t^5)(1 + pt)}
 \end{aligned}$$

$$\begin{aligned}
 (7) \quad & \underline{3x - 12} + \underline{tx - 4t} \\
 &= \underline{3(x - 4)} + \underline{t(x - 4)} \\
 &= \underline{(x - 4)(3 + t)}
 \end{aligned}$$

$$\begin{aligned}
 (8) \quad & \underline{mx - 3m} - \underline{k(x - 3)} \\
 &= \underline{m(x - 3)} - \underline{k(x - 3)} \\
 &= \underline{(x - 3)(m - k)}
 \end{aligned}$$

$$\begin{aligned}
 (9) \quad & \underline{5ap + 6y - 10a - 3py} \\
 &= \underline{5ap - 10a} + \underline{6y - 3py} \\
 &= \underline{5a(p - 2)} + \underline{3y(2 - p)} \\
 &= \underline{5a(p - 2)} - \underline{3y(p - 2)} \\
 &= \underline{(p - 2)(5a - 3y)}
 \end{aligned}$$

$$\begin{aligned}
 (10) \quad & \underline{12ab} + \overbrace{\underline{2(3am - b)}} - \underline{m} \\
 &= \underline{12ab} + \underline{6am} - \underline{2b} - \underline{m} \\
 &= \underline{12ab - 2b} + \underline{6am - m} \\
 &= \underline{2b(6a - 1)} + \underline{m(6a - 1)} \\
 &= \underline{(6a - 1)(2b + m)}
 \end{aligned}$$