

BAB 2: PEMFAKTORAN DAN PECAHAN ALGEBRA

LATIHAN 2.1 : KEMBANGAN (BIL. 2)

Kembangkan ungkapan algebra yang berikut.

Expand the following algebraic expressions.

SP2.1.2 TP3

CONTOH

$$\begin{aligned} & (p + 2q)(3p - 5q) \\ & = 3p^2 - 5pq + 6pq - 10q^2 \\ & = 3p^2 + pq - 10q^2 \end{aligned}$$

$$\begin{aligned} 1. \quad & (m + 7)(m - 3) \\ & = m^2 - \quad + 7m - \quad \\ & = m^2 + \quad - \quad \end{aligned}$$

$$\begin{aligned} 2. \quad & (8x - 1)(x - 4) \\ & = 8x^2 - \quad x - x + \quad \\ & = 8x^2 - \quad + \quad \end{aligned}$$

$$\begin{aligned} 3. \quad & (9 - t)(4t + 3) \\ & = 36t + \quad - t^2 - \quad \\ & = \quad t^2 + \quad t + \quad \end{aligned}$$

$$\begin{aligned} 4. \quad & 2(3p - 8)(p - 2) \\ & = 2(\quad p^2 - \quad - 8p + 16) \\ & = 2(\quad p^2 - \quad p + \quad) \\ & = 6p^2 - 28p + 32 \end{aligned}$$

$$\begin{aligned} 5. \quad & (2h - 7)(2h + 7) \\ & = \quad h^2 + 14h - \quad h - \quad \\ & = \quad h^2 - \quad \end{aligned}$$

$$\begin{aligned} 6. \quad & (5a + 3b)(5a - 3b) \\ & = \quad a^2 - 15ab + 15ab - \quad b^2 \\ & = \quad a^2 - \quad b^2 \end{aligned}$$

$$\begin{aligned} 7. \quad & (4u + v)^2 \\ & = (4u + v)(4u + v) \\ & = \quad u^2 + \quad uv + \quad uv + \quad v^2 \\ & = \quad u^2 + \quad uv + \quad v^2 \end{aligned}$$

$$\begin{aligned} 8. \quad & (9w - 2x)^2 \\ & = (9w - 2x)(\quad) \\ & = \quad w^2 - \quad wx - \quad wx + \quad x^2 \\ & = 81w^2 - 36wx + 4x^2 \end{aligned}$$

2.1 Kembangan

Permudahkan setiap ungkapan algebra yang berikut.

Simplify each of the following algebraic expressions.

SP2.1.3 TP3

CONTOH 1

$$\begin{aligned} & 2u(8v - u) - (6uv - u^2) \\ & = 16uv - 2u^2 - 6uv + u^2 \\ & = -2u^2 + u^2 + 16uv - 6uv \\ & = -u^2 + 10uv \end{aligned}$$

$$\begin{aligned} & (h - k)^2 + 3hk \\ & = (h - k)(\quad) + \quad hk \\ & = h^2 - \quad hk + k^2 + \quad hk \\ & = h^2 - \quad hk + \quad hk + k^2 \\ & = h^2 + hk + k^2 \end{aligned}$$

CONTOH 2 :

$$\begin{aligned} 2. \quad & m(n - 4m) + 3n(4m - 2) \\ & = mn - 4m^2 + 12mn - 6n \\ & = -4m^2 + 12mn + mn - 6n \\ & = -4m^2 + 13mn - 6n \end{aligned}$$

$$\begin{aligned} & (4 - p)(4 + p) + p(2p - 1) \\ & = \quad - p^2 + \quad p^2 - \quad \\ & = -p^2 + \quad p^2 - p + \quad \\ & = p^2 - p + 16 \end{aligned}$$