

$$1. \left[\left(2ab - \frac{1}{2}b^2 \right) (3a + 2b) \left(-\frac{1}{3}b \right) - \frac{1}{3}b^4 + \frac{5}{6}ab^3 \right] : \left(\frac{1}{3}a^2b^2 \right) \quad -6$$

$$2. \left(\frac{1}{2}a^2b - a \right) \left(\frac{1}{2}a^2b + a \right) : \left(\frac{1}{2}a \right) \left(\frac{1}{2}a^2b^2 + 2 \right) \left(3a - \frac{5}{2}a + \frac{1}{2}a \right) + 4a^2 \quad \frac{1}{4}a^6b^4$$

$$3. \left(4a^3 - \frac{1}{2}a^2 \right) \left(\frac{1}{2}a + 4 \right) + 2a(-a^3 + a) \quad \frac{63}{4}a^3$$

$$4. (x - y)(2x - 1) - x(2x - 1) - y(1 + 2x) \quad -4xy$$

$$5. [3a(a^2 - 1) - 2a(2a - 1)] : 2a \quad \frac{3}{2}a^2 - \frac{1}{2} - 2a$$

$$6. -\frac{1}{2}xy \left[\left(\frac{3}{4}x^2y^2 + \frac{1}{2}x^2y^2 \right) : (-2x^2) \right] + \frac{7}{8}xy^3 \quad \frac{19}{16}xy^3$$

$$7. (2x - 1)^2 - (1 + 2x)(1 - 2x) - 4x(2x - 1) \quad 0$$

$$8. (x - 1)^3 - (x + 1)^2 - (x + 1)(-x + 1) - (x^2 + 1)(x - 3) \quad 0$$

$$9. (x - 3)(x - 2) + (x + 3)(x - 2) - 2(x - 3)(x + 2) - 12 \quad -2x$$

$$10. [(x - 2)(x + 2) - (x - 1)^3 - 4x^2]^2 - (x^3 - 3)^2 - 6x(x^3 + 2x + 3) + 3x^2 \quad 12x^3$$