

$$(5) \quad 2(x^2+y^2) + x^2(x-y) + 3xy - x^3$$

$$2x^2 + 2y^2 + x^3 - x^2y + 3xy - x^3$$

$$= 2x^2 + 2y^2 + 3xy - x^2y$$

$$= 2(x^2+y^2) + xy(3-x)$$

$$(6) \quad (i) \quad 5(2x+1) = 4(3x+2)$$

$$10x + 5 = 12x + 8$$

$$-8 + 5 = 12x - 10x$$

$$-3 = 2x$$

$$\boxed{-\frac{3}{2} = x}$$

$$(ii) \quad 12x + 5 = 4x - 1$$

$$12x - 4x = -5 - 1$$

$$8x = -6$$

$$x = \frac{-6}{8}$$

$$\boxed{x = -\frac{3}{4}}$$

$$(iii) \quad \frac{(4x-1)}{3} = \frac{(5x+2)}{2}$$

$$8x - 2 = 15x + 6$$

$$-6 - 2 = 15x - 8x$$

$$-8 = 7x$$

$$\boxed{-\frac{8}{7} = x}$$