

1.

$$i) x^6 \times x^8 \times x^2 \times x$$

$$\boxed{x^{17}}$$

$$ii) (2x^2)^4 \times 3x^3$$

$$2^4(x^2)^4 \times 3x^3$$

$$16x^8 \times 3x^3$$

$$16 \times 3 = 48x$$

$$8+3=11$$

$$\boxed{48x^{11}}$$

$$iii) \frac{x^{13}}{x^3} = \boxed{x^{10}}$$

$$iv) \sqrt{x} \times 3\sqrt{x}$$

$$\sqrt{x} \times \sqrt{x} = \sqrt{x^2}$$

$$2 \times 3(\sqrt{x})^2$$

$$6(\sqrt{x})^2$$

$$\boxed{6x}$$

$$v) \boxed{x}$$

2.

$$ii) 10(3x+2) = 7(-2x-1)$$

$$30x+20 = 7(-2x-1)$$

$$30x+20 = -14x-7$$

$$30x+20+14x = -7$$

$$44x+20 = -7$$

$$44x = -7-20$$

$$44x = -27$$

$$\boxed{x = \frac{-27}{44}}$$

2.

$$iii) \frac{3}{(2x+1)} \times \frac{4}{(x-1)}$$

$$(x-1) \times 3 = (2x+1) \times 4$$

$$3x-3 = 8x+4$$

$$8x-3x-3-8x = -5x-3$$

$$-5x-3 = 4$$

$$-5x = 4+3 = 7$$

$$-5x = 7$$

$$\boxed{x = \frac{7}{-5}}$$

2.

$$iv) (x+2)^2 = (x+3)(x+5)$$

2.

$$i) 7x-1 = 5x+4$$

$$7x-5x = 2x$$

$$2x = 4+1$$

$$2x = 5$$

$$x = \frac{5}{2}$$

$$\boxed{x = 2.5}$$