

1. i) $x^4 \times x^6 \times x = x^{11}$

ii) $2x^2 \times 3x^3 \times 2x = 7x^6$

iii) $\frac{x^4 \times x^3 \times x^2}{x^9} = x$

iv) $(3x^2)^3 = 27x^6$

v) $\sqrt{x} + \sqrt{x} = \sqrt[2]{x}$

3 i) $x^2 + 10x + 21 = 0$

$(x+7)(x+3) = 0$

$x^2 + \underbrace{3x + 7x}_{10x} + 21 = 0$

$x+7=0$

$x+3=0$

$(x=-7)$

$(x=-3)$

2. i) $15x-2=12x+9$

$3x = 11$

$x = \frac{11}{3}$

ii) $3(7x-1) = 6(x+3)$

$21x-3 = 6x+18$

$15x = 21$

$x = \frac{21}{15} = \frac{7}{5}$

iii) $\frac{5x+3}{4} = \frac{2x-1}{9}$

$4 \times 9 = 36$

$\frac{\cancel{36}(5x+3)}{4} = \frac{\cancel{36}(2x-1)}{9}$