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3/11/2020

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①

$$\begin{aligned} \text{i. } x^4 \times x^6 \times x^2 &= x^{12} \\ \text{ii. } 2x^2 \times x^3 \times 3x^3 \times 2x^3 &= 12x^6 \\ \text{iii. } 2x^2 \times x^3 \times 3x^3 \times 2x^3 &= 12x^6 \end{aligned}$$

$$\begin{aligned} \text{iv. } (3x^2)^3 &= 9x^2 \\ \text{v. } \sqrt{x} \times \sqrt{x} &= x \end{aligned}$$

②

$$\text{i. } 15x - 2 = 12x + 9$$

$$15x - 2 + 2 = 12x + 9 + 2$$

$$-12 = 3x + 9$$

$$x = 3$$

$$\text{ii. } 3(7x - 1) = 6(x + 3)$$

$$21x - 3 = 6x + 18$$

$$+3 \quad 21x = 6x + 18$$

$$-6 \quad 15x = 18 \quad x = \frac{18}{15}$$

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

$$9(5x + 3) = 4(2x - 1)$$

$$45x + 27 = 8x - 4$$

$$45x = 8x - 31$$

$$37x = -31$$

$$x = \frac{-31}{37}$$