

12:00 PM 1-11-21 ACHA3000

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$$\begin{aligned}
 & \text{(i)} \quad x^6 \times x^8 \times x^2 \times x \\
 & \quad 6 + 8 + 2 + 1 \\
 & \quad x^{17} \\
 & \quad \boxed{= x^{17}}
 \end{aligned}$$

$$\text{(iv)} \quad 2\sqrt{x} \times 3\sqrt{x}$$

$$\begin{aligned}
 & 2x \times 3 \\
 & 2 \times 3 = 6 \\
 & \boxed{= 6x}
 \end{aligned}$$

$$\text{(ii)} \quad (2x^2)^4 \times 3x^3$$

$$(2x^2)^4 = 2^4 (x^2)^4$$

$$\begin{aligned}
 & (\checkmark) \quad 1 \\
 & x^1 = 1
 \end{aligned}$$

$$\text{(ii)} \quad \frac{x^2 \times x^{10} \times x}{x^3}$$

$$\begin{aligned}
 & \frac{x^{10}}{x^3} \\
 & = x^{10-3} \\
 & = x^7
 \end{aligned}$$

$$\begin{aligned}
 & x^2 \times x^7 \\
 & = x^{2+7+1} = x^{10} \\
 & = x^{10}
 \end{aligned}$$

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2,

$$(i) \quad \underset{+1}{7x-1} = \underset{+1}{5x+4}$$

$$\underset{-5}{7x} = \underset{-5}{5x} + 5$$

$$\underset{\div 2}{2x} = \underset{\div 2}{5}$$

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

$$(iv) \quad \cancel{(x+2)^2} = (x+3)(x+5)$$

$$x^2 + 4x + 4 =$$

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

$$\underset{-20}{30x+20} = \underset{-20}{-14x-7}$$

$$\underset{+14x}{30x} = \underset{+14x}{-14x-27}$$

$$44x = -27$$

$$\underset{\div 44}{x} = \frac{-27}{44}$$

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

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

$$\underset{+3}{3x-3} = \underset{+3}{8x+4}$$

$$\underset{-8x}{3x} = \underset{-8x}{8x+7}$$

$$\underset{\div -5}{-5x} = 7$$

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

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

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3.

$$x^2 + 9x + 14 = 0$$

$$\begin{array}{r} 1 \\ -2 \\ -7 \\ -14 \end{array}$$

$$(ii) x^2 - 7x + 10 = 0$$

4.

$$17x^2 = -5x + 14$$

$$a = 17, b = 5, c = -14$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

~~$$x = \frac{-5 \pm \sqrt{5^2 - 4(17)(-14)}}{2(17)}$$~~

$$\frac{-5 \pm \sqrt{5^2 - 4(17)(-14)}}{2 \cdot 17}$$

$$+ x = \frac{-5 + \sqrt{977}}{34} \quad \frac{-5 + \sqrt{977}}{34} \quad \frac{\sqrt{5^2 + 4 \cdot 17 \cdot 14}}{\sqrt{25 + 952}} \quad \frac{\sqrt{977}}{\sqrt{977}}$$

$$- \frac{-5 - \sqrt{977}}{34}$$

$$\boxed{x = \frac{-5 + \sqrt{977}}{34}} \quad \boxed{x = \frac{-5 - \sqrt{977}}{34}}$$

5.

$$6x + 5y = 35$$

$$7x - 4y = 31$$

Out of Time

$$x = 5 \quad y = 1$$