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01/11/21

12pm

1)

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

$\boxed{x^{17}}$

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

$16x^8 \cdot 3x^3$

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

iii) $\frac{x^2 \cdot x^{10} \cdot x}{x^3}$

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

iv) $2\sqrt{x} \cdot 3\sqrt{x}$

$\boxed{6\sqrt{x^2}}$

v) $1 = \boxed{x^0}$

$x^1 = x$

$x^0 = 1$

2)

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

$7x - 5x = 4 + 1$

$2x = 5$

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

$\boxed{x = \frac{5}{2} \mid 2.5}$

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

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

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

$44x = -27$

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

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

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

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

$3x - 3 = 8x + 4$

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

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

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

-1.4

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

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

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

$x^2 + 5x + 3x + 15$

$\cancel{x^2} + 4x + 4 = \cancel{x^2} + 8x + 15$

$4 - 15 = 8x - 4x$

$-11 = 4x$

$\boxed{x = \frac{-11}{4}}$