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Q1,

(i) ~~$(x)^{17}$~~ $(x)^{17}$

(ii) $(x)^{59}$

(iii) $\frac{13x}{3x} = (x)^{4.3}$

(iv)

Q2 (i) $7x - 5x = 4 + 1$

$$2x = 5$$

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

$$x = 2.5$$

(ii) $30x + 6 = 14x - 7$

$$16x = -13$$

$$x = \frac{-13}{16}$$

$$x = -0.8125$$

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

$$5x - 2 = 4x + 5$$

$$-2 - 5 = 4x - 5x$$

$$-7 = -x$$

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

$$x^2 + 4x + 4 = x^2 + 8x + 15$$

$$4x + 4 = 8x + 15$$

$$4x - 8x = 15 - 4$$

$$x = -1.25$$

Q3) (i) $x^2 + 9x + 14 = 0$
 $(x+7)(x+2) = 0$
 $x^2 + 2x + 7x + 14$
 $9x$ ✓

$x+7=0$ $x+2=0$
 $x=-7$ $x=-2$

(ii) $x^2 - 7x + 10 = 0$
 $(x-2)(x-5) = 0$

$x-2=0$ $x-5=0$

$x=2$ $x=5$

(iii) $x^2 + 8x - 20 = 0$
 $(x+10)(x-2) = 0$

$x^2 + 10x - 2x - 20 = 0$
 $8x$
~~10x~~

$20-1$
 1×20
 2×10
 10×2

$x+10=0$ $x-2=0$
 $x=-10$ $x=2$

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$$(iv) x^2 - 49 = 0$$

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

$$x^2 - 7x + 7x - 25$$

$$x + 7 = 0 \quad x - 7 = 0$$

$$x = -7 \quad x = +7.$$

$$(v) 2x^2 - 3x - 20 = 0$$

$$(2x - 1)(x - 20) = 0$$

$$\begin{array}{r} 2x^2 - 20x - 1x + 20 \\ \hline 19x \end{array}$$

$$\begin{array}{r} 20 \\ 20 \ 1 \\ 2 \ 10 \\ 10 \ 2 \end{array}$$

$$(2x - 20)(x - 1) = 0$$

$$2x -$$

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4) $17x^2 = -5x + 14$

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$$\begin{array}{rcl} 5) & 6x + 5y = 35 & (1) \\ & 5x - 4y = 31 & (2) \\ \hline & 24x + 20y = 140 & (3) \\ & 35x - 20y = 155 & (4) \\ \hline & 59 = 295 & \\ & x = \frac{295}{59} & \end{array}$$

$x = 5$ sub in (2) (1)

$$\begin{array}{l} \cancel{7(5) + 4y = 35} \\ 6(5) + 5y = 35 \\ 30 + 5y = 35 \\ \cancel{5y} \quad 5y = 5 \\ y = 1 \end{array}$$

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