

# Final Review

Monday, April 18, 2016

12:14 PM

$$\sqrt{x^3} = \sqrt{x \cdot x \cdot x} = x\sqrt{x}$$

$$3\sqrt{x} + 2\sqrt{x} - 5\sqrt{x} = 0$$

$$3\sqrt{2} + 2\sqrt{2} - 5\sqrt{2} = 0$$

$$x = \sqrt{x+10} + 2$$

$$x^2 = (\sqrt{x+10} + 2)^2$$

$$x - 2 = \sqrt{x+10}$$

$$(x-2)^2 = \sqrt{x^2+10^2}$$

$$(x + \sqrt{x+1})^2$$

$$= (x + \sqrt{x+1})(x + \sqrt{x+1})$$

$$\rightarrow = x^2 + x\sqrt{x+1} + x\sqrt{x+1} + (\sqrt{x+1})^2$$

$$\rightarrow \rightarrow \rightarrow = x^2 + 2x\sqrt{x+1} + x+1$$

$$10c) \sqrt{5r-9} - 3 = \sqrt{r+4} - 2$$

$$(\sqrt{5r-9})^2 = (\sqrt{r+4} + 1)^2$$

$$5r-9 = r+4 + 2\sqrt{r+4} + 1$$

$$5r-9 \geq 0$$

$$5r - 9 \geq 0$$

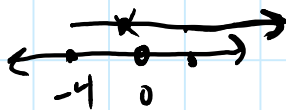
$$r \geq \frac{9}{5}$$

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$$r + 4 \geq 0$$

$$r \geq -4$$

$$\therefore r \geq \frac{9}{5} \quad \checkmark$$



$$5r - 9 - r - 4 - 1 = 2\sqrt{r+4}$$

$$4r - 14 = 2\sqrt{r+4}$$

$$(2r - 7)^2 = (\sqrt{r+4})^2$$

$$4r^2 - 28r + 49 = r + 4$$

$$4r^2 - 29r + 45 = 0$$

$$r = \underline{5}, \frac{9}{4}$$

1 check  $\rightarrow$  in original

1 check  $\rightarrow$  restrictions

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

9c)

$$\left(5\sqrt{\frac{x}{2}}\right)^2 = (\sqrt{200})^2$$

$$25\left(\frac{x}{2}\right) = 200$$

$$\frac{25x}{2} = 200$$

$$25x = 400$$

$$x = 16$$