

September 30, 2015

#7 + 9)  $(\sqrt{8x+1})^2 = (\sqrt{x+2})^2$

① A radical must first be isolated

② Raise each side to the power of the index

$$8x+1 = (x+2)(x+2)$$

$$8x+1 = x^2 + 4x + 4$$

$$0 = x^2 - 4x + 3$$

$$0 = (x-3)(x-1)$$

①  $x-3=0$   
 $x=3$

②  $x-1=0$   
 $x=1$

Ok  $x=3$

$$\sqrt{8(3)+1} = (3)+2$$

$$\sqrt{24+1} = 5$$

$$\sqrt{25} = 5$$

$$5 = 5 \checkmark$$

Ok  $x=1$

$$\sqrt{8(1)+1} = (1)+2$$

$$\sqrt{8+1} = 3$$

$$\sqrt{9} = 3$$

$$3 = 3 \checkmark$$

Sep 30-10:01 AM

8.7

#25)  $4\sqrt{x+1} - x = 1 + x$

$$\frac{4\sqrt{x+1}}{4} = \frac{x+1}{4}$$

$$(\sqrt{x+1})^2 = \left(\frac{x+1}{4}\right)^2$$

$$x+1 = \left(\frac{x+1}{4}\right)\left(\frac{x+1}{4}\right)$$

$$\frac{16}{1} \cdot \frac{(x+1)}{1} = \frac{x^2+2x+1}{1} \cdot \frac{16}{1}$$

$$16x + 16 = x^2 + 2x + 1$$

$$0 = x^2 - 14x - 15$$

$$0 = (x-15)(x+1)$$

①  $x=15$

②  $x=-1$

Sep 30-10:15 AM

$x = -1$

$$4\sqrt{x+1} - x = 1$$

$$4\sqrt{(-1)+1} - (-1) = 1$$

$$4\sqrt{0} + 1 = 1$$

$$4 \cdot 0 + 1 = 1$$

$$1 = 1 \checkmark$$

Sep 30-10:28 AM

#18)  $\sqrt[3]{x^2+2} - 3 = 0$

$$\left(\sqrt[3]{x^2+2}\right)^3 = (3)^3$$

$$x^2 + 2 = 27$$

$$\sqrt{x^2} = \pm\sqrt{25}$$

Ok  $x = \pm 5 \checkmark$

$x = 5$

$$\sqrt[3]{(5)^2+2} - 3 = 0$$

$$\sqrt[3]{25+2} - 3 = 0$$

$$\sqrt[3]{27} - 3 = 0$$

$$3 - 3 = 0$$

$$0 = 0 \checkmark$$

$x = -5$

$$\sqrt[3]{(-5)^2+2} - 3 = 0$$

$$\sqrt[3]{25+2} - 3 = 0$$

$$\sqrt[3]{27} - 3 = 0$$

$$3 - 3 = 0$$

$$0 = 0 \checkmark$$

Sep 30-10:31 AM

Exam #1

8.1 - 8.7

⊕

Algebra Prep

Sep 30-10:36 AM

8.1

#51)  $\left[ \left( \frac{81a^{-1/2}}{b^{-3/5}} \right)^{-1/2} \right]^{-1/2}$

$$\left[ \left( \frac{81b^{3/5}}{a^{1/2}} \right)^{-1/2} \right]^{-1/2}$$

$$\left[ \left( \frac{a^{1/2}}{81b^{3/5}} \right)^{1/2} \right]^{-1/2}$$

$$\left[ \frac{(a^{1/2})^{1/2}}{81^{1/2} \cdot (b^{3/5})^{1/2}} \right]^{-1/2}$$

$$\left[ \frac{a^{1/4}}{81^{1/2} \cdot b^{3/10}} \right]^{-1/2} = \left[ \frac{81^{1/2} \cdot b^{3/10}}{a^{1/4}} \right]^{1/2}$$

$$= (81^{1/2})^{1/2} \cdot (b^{3/10})^{1/2}$$

$$= \frac{(a^{1/4})^{1/2}}{81^{1/4} \cdot b^{3/20}}$$

$$= \frac{a^{1/8}}{81^{1/4} \cdot b^{3/20}}$$

$$= \frac{3b^{3/20}}{a^{1/8}}$$

Sep 30-10:37 AM