

September 18, 2015  
 \* SSC #2 Due Monday  
 \* Only Cumulative Page!

Sep 18-10:03 AM

Quiz # 4  
 #1)  $\sqrt{75x^5y^7z^8}$   
 $75 = 3 \cdot 5^2$   
 $\sqrt{3 \cdot 5^2 \cdot x^5 \cdot y^7 \cdot z^8}$   
 $\sqrt{(5^2) \cdot (x^2)^2 \cdot x \cdot (y^2)^2 \cdot y \cdot (z^4)^2}$   
 $5x^2y^3z^4\sqrt{3xy}$   
 $\sqrt{75} = \sqrt{25 \cdot 3}$   
 $= \sqrt{25} \cdot \sqrt{3}$   
 $= 5\sqrt{3}$

Sep 18-10:07 AM

8.4  
 #64)  $(\sqrt{x-3} + \sqrt{2x})^2$   
 $(\sqrt{x-3} + \sqrt{2x})(\sqrt{x-3} + \sqrt{2x})$   
 F:  $(\sqrt{x-3}) \cdot (\sqrt{x-3}) = x-3$   
 O:  $(\sqrt{x-3}) \cdot (\sqrt{2x}) = \sqrt{(x-3)(2x)}$   
 I:  $(\sqrt{2x}) \cdot (\sqrt{x-3}) = \sqrt{(x-3)(2x)}$   
 L:  $(\sqrt{2x}) \cdot (\sqrt{2x}) = 2x$   
 $x-3 + 2\sqrt{(x-3)(2x)} + 2x$   
 $3x - 3 + 2\sqrt{(x-3)(2x)}$

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$\sqrt{\frac{25}{3}} = \frac{\sqrt{25}}{\sqrt{3}} = \frac{5}{\sqrt{3}}$   
 \* Can not leave a radical in the denominator

Sep 18-10:25 AM

$\sqrt[3]{\frac{16x^4}{y^9}} = \frac{\sqrt[3]{16x^4}}{\sqrt[3]{y^9}}$   
 $16 = 2^4$   
 $8 = 2^3$   
 $4 = 2^2$   
 $\frac{\sqrt[3]{2^3 \cdot 2 \cdot x^4}}{\sqrt[3]{(y^3)^3}}$   
 $\frac{2x\sqrt[3]{2x}}{y^3}$

Sep 18-10:31 AM

Rationalizing the Denominator or Division of Radicals  
 $\frac{5}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{5\sqrt{3}}{\sqrt{3 \cdot 3}} = \frac{5\sqrt{3}}{\sqrt{9}} = \frac{5\sqrt{3}}{3}$   
 $\frac{12}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{12\sqrt{3}}{3} = 4\sqrt{3}$

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#8)

$$\frac{\sqrt{3} + 3\sqrt{5}}{2\sqrt{8}} \cdot \frac{\sqrt{8}}{\sqrt{8}} = \frac{\quad}{16}$$

*Must be Rationalized*

$$\frac{\sqrt{8}(\sqrt{3} + 3\sqrt{5})}{16} = \frac{\sqrt{24} + 3\sqrt{40}}{16}$$

$$\frac{2\sqrt{6} + 3\sqrt{10}}{16} = \frac{2\sqrt{6} + 6\sqrt{10}}{16}$$

$$= \frac{2\sqrt{6}}{16} + \frac{6\sqrt{10}}{16}$$

$$\frac{\sqrt{6} + 3\sqrt{10}}{8} \quad \text{or} \quad \frac{\sqrt{6}}{8} + \frac{3\sqrt{10}}{8}$$

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