

March 30, 2015  
 \* Exam #2 - Friday  
 • Cumulative !!

Mar 30-10:52 AM

10.4 addition of radicals  
 See 10.5 #10 from 3/27

$$\frac{(5\sqrt{2} + \sqrt{6})(4\sqrt{2} + \sqrt{6})}{(4\sqrt{2} - \sqrt{6})(4\sqrt{2} + \sqrt{6})}$$

$$\frac{20 + 3\sqrt{12} + 4\sqrt{12} + 6}{16 - 2 + 4\sqrt{12} - 4\sqrt{12} - 6}$$

F O I L

$$\frac{30 + 16\sqrt{3} + 8\sqrt{3}}{26}$$

*addition of like radicals*

$$\frac{30 + 14\sqrt{3}}{26} = \frac{30}{26} + \frac{14}{26}\sqrt{3}$$

$$= \frac{15}{13} + \frac{7}{13}\sqrt{3}$$

$$= \frac{15 + 7\sqrt{3}}{13}$$

Mar 30-11:04 AM

addition of radicals  
 \* We can only combine (add) "Like" radicals

$$2x^3 + 5x^3 = (2+5)x^3 = 7x^3$$

$$2\sqrt[3]{x} + 5\sqrt[3]{x} = (2+5)\sqrt[3]{x} = 7\sqrt[3]{x}$$

\* Like radicals

- ① They must have the same radicand
- ② They must have the same index.

Mar 30-11:14 AM

*like indexes*

$$-3\sqrt[4]{5} + 2\sqrt[4]{5}$$

*like radicands*

$$(-3+2)\sqrt[4]{5} = -\sqrt[4]{5}$$

Mar 30-11:20 AM

10.4

#1)  $\sqrt{25} + \sqrt{16} = 5 + 4 = 9$

#2)  $\sqrt{32} + \sqrt{72}$

$$\sqrt{16 \cdot 2} + \sqrt{36 \cdot 2} = 4\sqrt{2} + 6\sqrt{2} \text{ like!}$$

$$10\sqrt{2}$$

Mar 30-11:23 AM

#10)

$$\frac{\sqrt[3]{x^5}}{3} + \frac{3x\sqrt[3]{x^4}}{2}$$

$$\frac{2\sqrt[3]{x^5} + 9x\sqrt[3]{x^4}}{6}$$

$$\frac{2x\sqrt[3]{x^2} + 9x\sqrt[3]{x^2}}{6}$$

$$\frac{11x\sqrt[3]{x^2}}{6}$$

Complete 10.4 #1 - #10

Mar 30-11:37 AM

$$\frac{1}{3} + \frac{3}{2}$$

Mar 30-11:39 AM

## Solving Radical Equations

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

\* Un-doing  
the radical

• By raising  
the radical to  
the power of its  
index

$$x + 3 = 9$$

Check

$$x = 6$$

$$x = 6; \quad \sqrt{x+3} = 3$$

$$\sqrt{6+3} = 3$$

$$\sqrt{9} = 3$$

$$3 = 3 \checkmark$$

Mar 30-11:42 AM