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Objective: Multiply and divide radical expressions

Mar 10-10:32 AM

When is a product of radicals in simplest form?

Multiply. Write each product in simplest form.

1. $\sqrt{8}\cdot\sqrt{6} = \sqrt{48}$ $\sqrt{4\cdot2}$ $2\sqrt{2}\cdot\sqrt{6}$ $2\sqrt{12}$ $2\sqrt{4\cdot3}$ $4\sqrt{3}$ $\sqrt{16\cdot3}$ $4\sqrt{3}$

2. $\sqrt{5}\sqrt{10} = \sqrt{50}$ $\sqrt{25\cdot2}$ $5\sqrt{2}$

3. $(2\sqrt{5})^2$ $2\sqrt{5}\cdot2\sqrt{5}$ $4\sqrt{25}$ $4\cdot5 = 20$

4. $(3\sqrt{7})^2$ $3\sqrt{7}\cdot3\sqrt{7}$ $9\sqrt{49}$ $9\cdot7 = 63$

Apr 5-8:49 AM

Multiply. Write each product in simplest form.

5. $\sqrt{3y}\sqrt{12y}$ $\sqrt{36y^2}$ $6y$

6. $3\sqrt{2m}\sqrt{14m}$ $3\sqrt{28m^2}$ $3\sqrt{4\cdot7m^2}$ $3\cdot2$ $6m\sqrt{7}$

Apr 5-8:55 AM

Multiply. Write each product in simplest form.

Hint:

7. $\sqrt{3}(7-\sqrt{8})$ $7\sqrt{3}-\sqrt{24}$ $7\sqrt{3}-\sqrt{4\cdot6}$ $7\sqrt{3}-2\sqrt{6}$

8. $\sqrt{2}(\sqrt{8}+\sqrt{18})$ $\sqrt{16}+\sqrt{36}$ $4+6$ 10

9. $\sqrt{7k}(\sqrt{7}-5)$ $\sqrt{49k}-5\sqrt{7k}$ $7\sqrt{k}-5\sqrt{7k}$

10. $5\sqrt{5}(-4+6\sqrt{5})$ $-20\sqrt{5}+30\sqrt{25}$ $30\cdot5$ $-20\sqrt{5}+150$

Apr 5-8:58 AM

In Chapter 7, you learned to multiply binomials by using the FOIL method. The same method can be used to multiply square-root expressions that contain two terms.

Remember!

First terms
Outer terms
Inner terms
Last terms

See Lesson 7-7.

Mar 14-10:15 AM

F L I O

$(4+\sqrt{3})(5+\sqrt{3}) = 4(5) + 4\sqrt{3} + 5\sqrt{3} + \sqrt{3}\sqrt{3}$

$\sqrt{9}$

$= 20 + 9\sqrt{3} + 3$

$= 23 + 9\sqrt{3}$

Mar 14-11:09 AM

Multiply. Write each product in simplest form.

Use FOIL to multiply sums and differences

11. $(3-\sqrt{8})(2+\sqrt{8})$

$6+3\sqrt{8}-2\sqrt{8}-\sqrt{64}$

$6+\sqrt{8}-8$

$\sqrt{4}\cdot\sqrt{2}$

$-2+2\sqrt{2}$

12. $(4+\sqrt{3})^2$

$(4+\sqrt{3})(4+\sqrt{3})$

$16+4\sqrt{3}+4\sqrt{3}+\sqrt{9}$

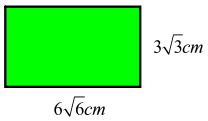
$19+8\sqrt{3}$

13. $(3+\sqrt{3})(8-\sqrt{3})$

14. $(4-\sqrt{3})(\sqrt{3}+5)$

Apr 5-9:05 AM

Find the area of each figure. Give your answer as a radical expression in simplest form.



?

$3\sqrt{3}\cdot 6\sqrt{6} = 18\sqrt{18}\ cm^2$

$18\sqrt{9\cdot 2}$

$18\cdot 3\sqrt{2}$

$54\sqrt{2}\ cm^2$

Mar 10-10:37 AM

Assignment: p. 819 #1-18, 53-55

1. ~~~~

2. ~~~

n. ↓

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Mar 14-11:10 AM