

Algebra

Simplifying Radicals Involving Products & Quotients

Name: _____ Period: _____ Date: _____

Simplify each radical expression completely.

1. $-2\sqrt{16x^2y^4z^{10}}$

2. $6a^2b^3c^4\sqrt{75a^5b^6c^7}$

3. $2\sqrt{2a^2} \cdot 4\sqrt{24a^4}$

4. $2x^2y\sqrt{5x^3y} \cdot 3xy\sqrt{10x^3y}$

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5. $\sqrt{\frac{11}{100}}$

6. $\sqrt{\frac{169}{16t^2}}$

7. $\sqrt{\frac{3a^9}{12a}}$

Simplify each expression by rationalizing the denominator.

8. $\frac{5}{\sqrt{3}}$

9. $\frac{\sqrt{11}}{\sqrt{5x}}$

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10. $\frac{\sqrt{x^2}}{\sqrt{y^3}}$

11. $\frac{10}{\sqrt{13}}$

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Simplify completely. *If needed, rationalize the denominator.*

12. $\sqrt{\frac{15x^2y^3}{49}}$

13. $\sqrt{\frac{a^6}{3a^2}}$

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14. $\sqrt{\frac{4a^3b^2c^4d^6}{a}}$

15. $\sqrt{\frac{144a^3}{9a}}$