

Name _____

Key

7-2 Multiplying and Dividing Radical Expressions Practice

Multiply and simplify. Assume that all variables are positive. Circle final answers.

1. $\sqrt{4} \cdot \sqrt{6}$

$\sqrt{24} \xrightarrow{2 \cdot 3}$
 $\boxed{2\sqrt{6}}$

2. $\sqrt{9x^2} \cdot \sqrt{9y^5}$

$\sqrt{81x^2y^5}$
 $\boxed{9xy^2\sqrt{y}}$

3. $\sqrt[3]{50x^2z^5} \cdot \sqrt[3]{15y^3z}$

$\sqrt[3]{750x^2y^3z^6}$
 $\boxed{5yz^2\sqrt[3]{2x^2}}$

750
 \uparrow
 10 75
 \uparrow \uparrow
 25 325
 \uparrow \uparrow
 5 5

4. $4\sqrt{2x} \cdot 3\sqrt{8x}$

$12\sqrt{16x^2}$
 $12 \cdot 4x = \boxed{48x}$

5. $\sqrt{xy} \cdot \sqrt{4xy}$

$\sqrt{4x^2y^2}$
 $\boxed{2xy}$

6. $9\sqrt{2} \cdot 3\sqrt{y}$

$\boxed{27\sqrt{2y}}$

Multiply. Simplify if possible. Assume that all variables are positive. Circle final answers.

7. $\sqrt{4} \cdot \sqrt{25}$

$\sqrt{100}$
 $\boxed{10}$

8. $\sqrt{81} \cdot \sqrt{36}$

9 · 6
 $\boxed{54}$

9. $\sqrt[3]{2xy^2} \cdot \sqrt[3]{4x^2y^7}$

$\sqrt[3]{8x^3y^9}$
 $\boxed{2xy^3}$

Simplify. Assume that all variables are positive. Circle final answers.

10. $\sqrt{36x^3}$

$\boxed{6x\sqrt{x}}$

11. $\sqrt[3]{125y^2z^4}$

$\boxed{5z\sqrt[3]{y^2z}}$

12. $\sqrt{18k^6}$

~~$9k^3$~~ $\boxed{3k^3\sqrt{2}}$

13. $\sqrt[3]{216x^4y^3}$

$\boxed{6xy\sqrt[3]{x}}$

14. $\sqrt{75r^3}$

$\sqrt[3]{25}$
 \uparrow
 55
 $\boxed{5r\sqrt{3r}}$

15. $\sqrt[4]{625u^5v^8}$

$\boxed{5uv^2\sqrt[4]{u}}$