Name

8-5A Lesson Master

Questions on SPUR Objectives
See Student Edition pages 574–577 for objectives.

SKILLS Objective D

In 1–4, simplify the radical expression. Do as much work as you can by hand.

1. $\sqrt[3]{16}$ _____
2. $\sqrt[4]{1600}$ _____
3. $\sqrt{14} \cdot \sqrt{21}$ _____
4. $\sqrt[3]{81} \cdot \sqrt[3]{3}$ _____
5. Solve for b: $\sqrt[3]{12} \cdot \sqrt[3]{b} = \sqrt[3]{72}$. _____
6. Write three different expressions equivalent to $\sqrt[4]{320}$.

_____

In 7–12, simplify or rewrite with smaller powers of the variables inside the radical. Assume all variables are nonnegative.

7. $\sqrt[3]{8a^6b^{12}}$ _____
8. $\sqrt{12x^8}$ _____
9. $\sqrt[5]{320p^{12}}$ _____
10. $\sqrt[4]{160{,}000n^{12}}$ _____
11. $\sqrt[4]{12x^5} \cdot \sqrt[4]{20x^{10}}$ _____
12. $\sqrt{17a^{12}b^3} \cdot \sqrt{5a^3b^{10}}$ _____

PROPERTIES Objective G

13. For what values of x is $\sqrt[8]{x^8} = x$? _____
14. Give a counterexample to show that $\sqrt[4]{a} \cdot \sqrt[4]{b} \neq \sqrt[4]{ab}$.

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15. Chris says that $6\sqrt[3]{3} = \sqrt[6]{6}$. Pat says that $\sqrt[3]{3} = \sqrt[6]{9}$. Who is correct? Explain.

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