Name

8-7A Lesson Master

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

SKILLS Objective C

In 1–6, evaluate each radical expression, if possible. Work by hand; check with a CAS.

1. $\sqrt[3]{-1}$ _____
2. $\sqrt[4]{-16}$ _____
3. $\sqrt[4]{(-2)^4}$ _____
4. $\sqrt[3]{-\frac{1}{125}}$ _____
5. $\sqrt[5]{(-10)^{15}}$ _____
6. $\sqrt[7]{\left(-\frac{3}{5}\right)^{14}}$ _____

In 7–9, evaluate to the nearest thousandth, if possible.

7. $\sqrt[3]{-128.4}$ _____
8. $\sqrt[9]{-0.0314}$ _____
9. $\sqrt[8]{-1.616}$ _____

SKILLS Objective D

In 10–13, simplify or rewrite with a smaller power of the variable inside the radical.

10. $\sqrt[3]{-27a^{12}}$ _____
11. $\sqrt[4]{48n^{15}}$ _____
12. $\sqrt[5]{-\frac{12}{x^5}} \cdot \sqrt[5]{-\frac{40}{x^{10}}}$ _____
13. $\sqrt[3]{14p^6r^3} \cdot \sqrt[3]{-28p^2r^9}$ _____

PROPERTIES Objective G

In 14–19, tell without calculating whether the number is *positive*, *negative*, or *undefined*.

14. $(-3)^5$ _____
15. $(3)^{-5}$ _____
16. $(-2)^{14}$ _____
17. $\sqrt[3]{-5}$ _____
18. $\sqrt[4]{-12}$ _____
19. $\sqrt[5]{(-312.7)^2}$ _____

20. Enter each expression into a CAS and write the result.

    a. `solve (x^(1/3)=(x^3)^(1/9),x)` _____

    b. `solve (x^(1/3)=(x^2)^(1/6),x)` _____

    c. Explain why the answers are different. _____