Name

# 8-4B Lesson Master

**Questions on SPUR Objectives**
See pages 521–523 for objectives.

## SKILLS Objectives A and B

**In 1 and 2, rewrite without negative exponents.**

1. $x^{-3} \cdot y^{-4}$ _____

2. $3a^2b^{-5}$ _____

**In 3–8, rewrite: a. without fractions; b. without negative exponents.**

3. $\frac{32c^{-4}}{16c^2}$

a. _____

b. _____

4. $\frac{-d^{-2}e^2}{de}$

a. _____

b. _____

5. $\left(\frac{1}{f^4}\right)^{-3}$

a. _____

b. _____

6. $\left(\frac{2}{g^{-2}}\right)^4$

a. _____

b. _____

7. $\frac{70h^4j^{-2}k^3}{10h^9k}$

a. _____

b. _____

8. $\frac{-56m^{-6}n^{-1}}{8m^2n^6}$

a. _____

b. _____

**In 9–14, give the answer as a simple fraction.**

9. $4^{-3}$ _____

10. $9^{-2}$ _____

11. $\left(\frac{1}{4}\right)^{-1}$ _____

12. $\left(\frac{5}{6}\right)^{-2}$ _____

13. $(-2)^{-4}$ _____

14. $(7^5)^{\frac{3}{5}}$ _____

15. Order the following numbers from least to greatest.

$\left(\frac{3}{4}\right)^{-2}, \frac{3}{16}, (-3)(-4), \left(\frac{2}{3}\right)^{-4}$

_____

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## PROPERTIES Objective G

**In 16–24, use the properties of negative exponents to find the value of *x*.**

16. $\frac{p^{-3}}{p^x} = \frac{1}{p^7}$ _____

17. $\left(\frac{3}{4}\right)^x = \frac{16}{9}$ _____

18. $\frac{r^{-2}s^x}{s^3} = \frac{1}{r^2s^6}$ _____

19. $\frac{t^5}{t^x} = t^{11}$ _____

20. $2^{-3} \cdot w^x = \frac{1}{8w^3}$ _____

21. $\frac{w^x}{2^{-3}w^4} = \frac{8}{w^5}$ _____

22. $\left(\frac{2h^{-9}}{3h^x}\right)^{-1} = \frac{3h^{16}}{2}$ _____

23. $-14j^{-4}k^{2x} = \frac{-14}{j^4k^{10}}$ _____

24. $\left(\frac{1}{2}\right)^{-3x} = 2$ _____

25. Justin simplified $\left(\frac{2}{5}\right)^{-2}$, and he got $\frac{4}{25}$. Explain the error he made in simplifying the fraction.

_____

26. *Multiple Choice.* Which expression can be simplified to $\frac{x^4}{81}$? _____

A $\left(\frac{x}{3}\right)^{-4}$ B $\left(\frac{x^3}{3}\right)^{-1}$ C $\left(\frac{3}{x}\right)^{-4}$ D $\left(\frac{3}{x^3}\right)^{-1}$