Name _____   Date _____

Practice A
For use with pages 495–501

Name the property demonstrated by the example.

1. $\dfrac{x^5}{x^3} = x^{5-3} = x^2$

2. $\left(\dfrac{a}{b}\right)^4 = \dfrac{a^4}{b^4}$

3. $\dfrac{2m^8}{m^6} = 2m^{8-6} = m^2$

Fill in the blanks.

4. $\dfrac{3^8}{3^5} = 3^{8\,\square\,5}$

$= 3^{\square}$

5. $\left(\dfrac{3}{4}\right)^4 = \dfrac{3^{\square}}{4^{\square}}$

6. $\dfrac{8^6}{8^4 \cdot 8^2} = \dfrac{8^{\square}}{8^{\square}}$

$= 8^{\square}$

Simplify the expression. Write your answer using exponents.

7. $\dfrac{4^7}{4^3}$

8. $\dfrac{9^{10}}{9^7}$

9. $\dfrac{3^6}{3^1}$

10. $\dfrac{(-5)^4}{(-5)^3}$

11. $\dfrac{(-7)^5}{(-7)^1}$

12. $\left(\dfrac{1}{4}\right)^5$

13. $\left(\dfrac{5}{3}\right)^7$

14. $\left(\dfrac{2}{7}\right)^9$

15. $4^5 \cdot \dfrac{1}{4^2}$

Simplify the expression.

16. $\dfrac{1}{y^5} \cdot y^{11}$

17. $z^3 \cdot \dfrac{1}{z^2}$

18. $\dfrac{1}{m^4} \cdot m^8$

19. $\left(\dfrac{x}{y}\right)^3$

20. $\left(\dfrac{a}{b}\right)^{13}$

21. $\left(\dfrac{1}{z}\right)^9$

22. Internet Users The table shows the numbers of Internet users in selected countries in 2001.

Country	Albania	Jamaica	Marshall Islands	Romania
Internet Users	10^4	10^5	10^3	10^6

a. How many times greater is the number of users from Romania than the number of users from the Marshall Islands?

b. How many times greater is the number of users from Albania than the number of users from the Marshall Islands?

c. How many times greater is the number of users from Jamaica than the number of users from the Marshall Islands?

d. How many times greater is the number of users from Romania than the number of users from Albania?

LESSON 8.2