

Name: \_\_\_\_\_

Period: \_\_\_\_\_

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**Exponents  
Practice Test**

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Unit 11

- A. Make a factor tree for each of the following numbers.  
B. Write your answer in exponential form.

1. 12

2. 51

3. 63

4. 81

Use the Rules of Divisibility and your Prime Numbers Chart to tell whether each number is prime or composite.

5. 96

8. 121

6. 199

9. 71

7. 38

10. 34

Write each expression in exponential form.

11.  $9 \cdot g \cdot g \cdot g \cdot u \cdot u$

13.  $2 \cdot m \cdot k \cdot 7 \cdot k \cdot j \cdot j \cdot m$

12.  $a \cdot b \cdot b \cdot a \cdot b \cdot c$

14.  $rtsrtsrtsr$

Simplify each expression.

15.  $6^3$

18.  $3^6$

16.  $\sqrt{49}$

19.  $\sqrt{64}$

17.  $9^2$

20.  $\sqrt{121}$

Simplify each exponent.

21.  $(-5)^3$

24.  $(-4)^6$

22.  $-6^2$

25.  $-3^6$

23.  $-7^4$

26.  $(-2)^4$

Use the order of operations to evaluate.

27.  $8 + 6(12 - 3)^2$

30.  $\frac{\sqrt{81}}{81}$

28.  $\frac{x^4}{5}$  for  $x = -3$

31.  $y - \sqrt{y}$  for  $y = 36$

29.  $(4 + 8) \div 2^2$

32.  $18 + 3(14 - 9)^2 \div 5$

Simplify.

33.  $(5^3)^4$

38.  $(5x^4)^3$

34.  $3^4 \bullet 3^8$

39.  $(18x^3y^5)^0$

35.  $(-3m^3)^2$

40.  $(4^3)^2$

36.  $(w^7)^2$

41.  $14u^7 \bullet 3u^6h^2$

37.  $p^4 \bullet p^{11}$

42.  $4r^3 \bullet 6r^3$

Simplify.

$$43. \frac{3^6}{3^3}$$

$$44. \frac{4st^2}{16s^2t^4}$$

$$45. \frac{h^4}{h^5}$$

$$46. \frac{3j^2}{j^8}$$

$$47. \frac{t^0}{t^4}$$

$$48. \frac{16w^3u^2v^4}{2w^5v}$$

$$49. \frac{7^3}{7^0}$$

$$50. \frac{6k^5}{4k^3}$$

$$51. \frac{3a^2bc^7}{12b^4c^3}$$

$$52. \frac{g^7}{g^2}$$

Simplify. If the problem has no like terms, write "Simplified".

$$53. 7hp - 4 - 5ph + 2$$

$$57. x^2y - 9 + 2 + 2x^2y$$

$$54. -5 + 2(1 + 3a) - 2a$$

$$58. r + 3r^2 + 8r - 2r^2$$

$$55. x + 4x^2 + x - 8x^2$$

$$59. 7b^2 + 4b^3 - 3b^3 - 2b^2$$

$$56. 2xy - 5 + 7yx - 1$$

$$60. -4b + 2(b + 6)$$

