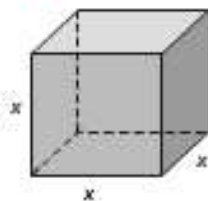




Simplify each expression.

- $(x^2)(7x^9)$ $7x^{11}$
- $(5a^7bc^2)(-6a^2bc^5)$ $-30a^9b^2c^7$
- MULTIPLE CHOICE** Express the volume of the solid as a monomial. **A**



- A x^3 C $6x^3$
 B $6x$ D x^6

Simplify each expression. Assume that no denominator equals 0.

- $\frac{x^6y^8}{x^2}$ x^4y^8
- $\left(\frac{2a^4b^3}{c^6}\right)^0$ 1
- $\frac{2xy^{-7}}{8x}$ $\frac{1}{4y^7}$

Simplify.

- $\sqrt[3]{1000}$ 10
- $1728^{\frac{1}{3}}$ 12
- $27^{\frac{2}{3}}$ 9
- $27^{\frac{5}{3}}$ 243
- $\sqrt[3]{3125}$ 5
- $\left(\frac{16}{81}\right)^{\frac{1}{2}}$ $\frac{4}{9}$
- $10,000^{\frac{3}{4}}$ 1000
- $\left(\frac{1}{121}\right)^{\frac{3}{2}}$ $\frac{1}{1331}$

Solve each equation.

- $12^x = 1728$ 3
- $7^{x-1} = 2401$ 5
- $9^{x-3} = 729$ 6

Express each number in scientific notation.

- 0.00021 2.1×10^{-4}
- 58,000 5.8×10^4

Express each number in standard form.

- 2.9×10^{-5} 0.000029
- 9.1×10^6 $9,100,000$

Evaluate each product or quotient. Express the results in scientific notation.

- $(2.5 \times 10^3)(3 \times 10^4)$ 7.5×10^7
- $\frac{8.8 \times 10^2}{4 \times 10^{-4}}$ 2.2×10^6
- ASTRONOMY** The average distance from Mercury to the Sun is 35,980,000 miles. Express this distance in scientific notation. 3.598×10^7

Graph each function. Find the y -intercept, and state the domain and range.

- $y = 2(5)^x$ **25–27. See margin.**
- $y = -3(11)^x$
- $y = 3^x + 2$

Find the next three terms in each geometric sequence.

- 2, -6, 18, ... **-54, 162, -486**
- 1000, 500, 250, ... **125, 62.5, 31.25**
- 32, 8, 2, ... **$\frac{1}{2}, \frac{1}{8}, \frac{1}{32}$**

31. MULTIPLE CHOICE Lynne invested \$500 into an account with a 6.5% interest rate compounded monthly. How much will Lynne's investment be worth in 10 years? **H**

- F \$600.00
 G \$938.57
 H \$956.09
 J \$957.02

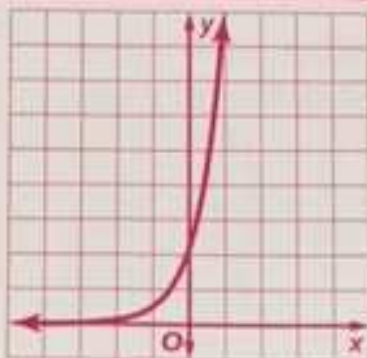
32. INVESTMENTS Shelly's investment of \$3000 has been losing value at a rate of 3% each year. What will her investment be worth in 6 years? **\$2498.92**

Find the first five terms of each sequence.

- $a_1 = 18, a_n = a_{n-1} - 4, n \geq 2$ **18, 14, 10, 6, 2**
- $a_1 = -2, a_n = 4a_{n-1} + 5, n \geq 2$ **-2, -3, -7, -23, -87**

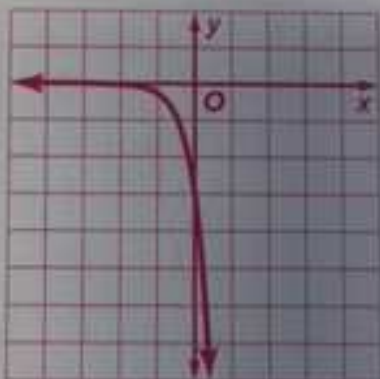
Additional Answers (Practice Test)

25.



2; $D = \{\text{all real numbers}\}$,
 $R = \{y \mid y > 0\}$

26.



-3; $D = \{\text{all real numbers}\}$,
 $R = \{y \mid y < 0\}$

27.



3; $D = \{\text{all real numbers}\}$,
 $R = \{y \mid y > 2\}$

52. -1,
53. 3, 9,
54. 256
55. SP
20
Dra

7-8

Find th

56. a,

57. a,

Write :

58. 2,

59. 3,

60. 2

454 |