

Lesson 8-1

(pages 410–415)

Determine whether each expression is a monomial. Write *yes* or *no*. Explain your reasoning.

1. $n^2 - 3$

2. 53

3. $9a^2b^3$

4. $15 - x^2y$

Simplify.

5. $a^5(a)(a^7)$

6. $(r^3t^4)(r^4t^4)$

7. $(x^3y^4)(xy^3)$

8. $(bc^3)(b^4c^3)$

9. $(-3mn^2)(5m^3n^2)$

10. $[(3^3)^2]^2$

11. $(3s^3t^2)(-4s^3t^2)$

12. $x^3(x^4y^3)$

13. $(1.1g^2h^4)^3$

14. $-\frac{3}{4}a(a^2b^3c^4)$

15. $(\frac{1}{2}w^3)^2(w^4)^2$

16. $[(-2^3)^3]^2$

17. $(\frac{2}{3}y^3)(3y^2)^3$

18. $(10s^3t)(-2s^2t^2)^3$

19. $(-0.2u^3w^4)^3$

Lesson 8-2

(pages 417–423)

Simplify. Assume that no denominator is equal to zero.

1. $\frac{6^{10}}{6^7}$

2. $\frac{b^6c^5}{b^3c^2}$

3. $\frac{(-a)^4b^8}{a^4b^7}$

4. $\frac{(-x)^3y^3}{x^3y^6}$

5. $\frac{12ab^5}{4a^4b^3}$

6. $\frac{24x^5}{-8x^2}$

7. $\frac{-9h^2k^4}{18h^5j^3k^4}$

8. $(\frac{2a^2b^4}{3a^3b})^2$

9. $\frac{9a^2b^7c^3}{2a^5b^4c^5}$

10. $\frac{-15xy^{-5}z^7}{-10x^{-4}y^6z^{-4}}$

11. 3^{-4}

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

13. $a^5b^0a^{-7}$

14. $\frac{(-u^{-3}v^3)^2}{(u^3v)^{-3}}$

15. $(\frac{a^3}{b^2})^{-3}$