

Chapter 6 Test

Multiply. (6.1)

1. $(x)(8x)$

2. $(3y)(7y)(4y)$

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

4. $(c^2)(4c^4)(3c^3)(5c^4)$

5. $(8y^5)(y)(2y^3)(4y^3)(3y^6)$

6. $(6xy^3)(x^4y^6)(5xy^4)(3xy^5)$

Divide. (6.1)

7. $\frac{15b^5}{5b^4}$

8. $\frac{24y^6}{8y^5}$

9. $\frac{25a^6b^{11}}{5a^4b^8}$

10. $\frac{120a^9b^{10}}{6a^7b^{10}}$

11. $\frac{240c^{18}d^6}{18c^{17}d^5}$

12. $\frac{55a^4b^4}{11a^2b^4}$

Name the polynomial. (6.2)

13. $x^2 + 10x + 20$

14. $6x + y + 3 - 8$

15. $8a^5 + 20a^6$

16. $b + c + 2$

Determine the degree of the polynomial. (6.2)

17. $5y^8 + y^5 + y^3 + y$

18. $12x^3$

19. $2ab^2 - a^3b^5 - 2a^2b^7 - 6a^5b^8 - 8a^7b^8 - 4a^7b^5$

20. $-18x^3y^6 - 12x^5y^3 - 10x^2y^5$

Simplify. (6.2)

21. $\frac{28x^2y^{-4}z}{7x^{-4}yz^7}$

22. $\frac{22a^{-7}b^4}{4a^{-5}b^{-3}}$

23. $\frac{a^{-8}b^{-5}}{3a^7b^{-5}}$

24. $\frac{8x^{-9}y^{-5}}{8x^{-9}y}$

25. $\frac{5g^{-6}h^8}{15gh^2}$

26. $\frac{24x^5y^{-7}}{6x^6y^{-3}}$

Add algebraically. (6.3)

27. $(a + 5b^5 + 4c - 16) + (a^2 + b^5 + 6c + 12)$

28. $(8a^3 + 33b^3 - 4c^3) + (2a^3 + 8b^3 - c^3 + 20)$

29. $(-24x + 43y + 8z) + (-5x + y - 31z)$

30. $(10d^2 - 2e^2 - 3f) + (5d^2 + 7e^2 + 8f)$

31. $(8x^2 - 19y - 45z^2 + 30) + (-12x^2 + y - z^2 + 9)$

32. $(7x^2 + 3y^3 - 16z^2) + (24x^2 + y^2 - 6z^2)$

Subtract algebraically. (6.3)

33. $(15a + 10b^5 + 7c - 5) - (a^2 + 4b^5 + 5c + 10)$

34. $(c^2 + 14d^3 - 16e^2) - (34c^2 + 22d^2 - 8e^2 + 12)$

35. $(-8a + 14b + 27c) - (-9a + 51b - 5c)$

36. $(d^2 - 7e^2 - 18f) - (11d^2 + 20e^2 + 45f)$

Find the product. (6.4)

37. $(a - 4b)(8a - 9b)$

38. $(p + 4q)(7p - q)$

39. $(2a + 6)(7a - 8)$

40. $(3x - 7y)(3x - 7y)$

41. $(11a - 4b)(11a + 4b)$

42. $(10x^2 + 13)(13x^2 - 10)$

43. $(x + 5)(x^2 - 13x + 12)$

44. $(5x^2 - 4x - 6)(x + 8)$

45. $(7x^2 - x + 9)(7x - 11)$