

Math 200 – Chapter 5 Review

Simplify. Write the result without using negative exponents.

1. $x^7 \cdot x^5$

2. $\frac{x^{10}}{x^2}$

3. $(4xy^8)(7xy^2)$

4. $(xy^2)^3(2x^4y^2)$

5. $\left(\frac{9x^6}{y^{10}z^2}\right)^2$

6. $\left(\frac{4xy^2}{z^5}\right)^3$

7. $\frac{x^2y^{16}}{xy^9}$

8. $\frac{x^7y^5}{3x^2y^4}$

9. $(14x^3)^0$

10. $(x-5)^0$

11. 7^{-2}

12. $-16x^8y^{-1}z^0$

13. $12x^{-3}$

14. $\left(\frac{a^{-8}}{b^{-3}}\right)^2$

15. $x^9 \cdot x^{-12}$

16. $\frac{y^4}{y^{-13}}$

17. $(5x^{-2}y^4)^{-3}$

18. $\left(\frac{2z}{x^{-1}y^{-4}}\right)^{-4}$

19. $\left(\frac{a^3b}{c^{-1}}\right)^{-5}$

20. $(-3x^{-7}y^{-2})^3$

21. Evaluate $x^2 - 6x - 10$ for $x = 3$.

22. Evaluate $x^3 - 9x$ for $x = -2$.

Add or subtract.

23. $(13x^2 - 4x + 2) - (7x^2 + x - 3)$

24. $(3x^2 - 6x + 2) + (5x^2 + 6x - 17)$

Multiply.

25. $4x(x^2 - 7x + 11)$

26. $-2x^2(8x - 1)$

27. $(2x - 9)(x + 8)$

28. $(3x - 8)(2x - 7)$

29. $(6x + 7)^2$

30. $(4x + 3)^2$

31. $(5x + 2)(5x - 2)$

32. $(3x - 7)(3x + 7)$

33. $(x - 5)(3x^2 + x - 2)$

34. $(2x - 1)(x^2 + 5x - 4)$

Divide.

$$35. \frac{15x^5 - 42x^3 - 12x}{3x}$$

$$36. \frac{18x^4 - 24x^3 + 6x^2}{6x^2}$$

$$37. \frac{2x^2 - 8x + 3}{x - 5}$$

$$38. \frac{x^2 + 2x - 8}{x - 3}$$

$$39. \frac{x^2 + 25}{x - 3}$$

$$40. \frac{10x^2 + x - 3}{2x - 1}$$

41. For $f(x) = 8 - x^2$, find $f(7)$.

42. For $f(x) = 5x^2 + 2x + 19$, find $f(-3)$.

43. For $f(x) = x^2 + 7x + 15$, find $f(b^5)$.

44. For $f(x) = 13x^2 - 27x - 10$, find $f(a^2)$.