

Use Algebraic Notation AND Show All of Your Work

[7 pts]

1. Add: $(6w^5 - 5w^3 - 7w) + (-18w^5 - 5w^3 - w)$

ANS: _____

[10 pts]

2. Add: $\left(\frac{2}{5}y^4 - \frac{4}{3}y^3 - \frac{5}{8}y^2 + 8\right) + \left(-\frac{4}{5}y^4 + \frac{1}{3}y^3 - \frac{1}{4}y^2 - 8\right)$

ANS: _____

[8 pts]

3. Subtract: $(-13x^4 + 8x^2 - 6x) - (-18x^4 - 18x^2 + 7x)$

ANS: _____

[12 pts]

4. Add: $(-0.04y^5 - 0.03y^3 + 0.05y + 8.6) - (-0.02y^5 + 0.06y^3 - y + 3.26)$

ANS: _____

Give an example of each of the following polynomials:

[5 pts]

5. Monomial

ANS: _____

[5 pts]

6. Binomial

ANS: _____

[5 pts]

7. Trinomial

ANS: _____

[7 pts]

8. Simplify: $(-2x^{12})^5$

ANS: _____

[9 pts]

9. Multiply: $(4z^5)(-6z^8)(5z^9)$

ANS: _____

[9 pts]

10. Multiply: $-6w^4(3w^5 - 2w^3 - 7)$

ANS: _____

[10 pts]

11. Multiply: $(3y - 4)(2y + 5)$

ANS: _____

[12 pts]

12. Multiply: $(3x - 1)(5x^2 - 3x + 2)$

ANS: _____

[15 pts]

13. Multiply: $\left(y - \frac{1}{3}\right)(3y^3 - 6y^2 + 5y - 9)$

ANS: _____

[13 pts]

14. Multiply: $(6x^4 - 7)(5x^3 - 8)$

ANS: _____

[12 pts]

15. Multiply: $(9x^{12} + 6)(9x^{12} - 6)$

ANS: _____

[14 pts]

16. Multiply: $(5x^2 - 3)^2$

ANS: _____

[12 pts]

17. Multiply: $\left(3y - \frac{1}{3}\right)^2$

ANS: _____

[9 pts]

18. Subtract: $(-8x^4y^3 + 5x^3y^2 - 7y) - (3x^4y^3 - 5x^3y^2 - 8y + 9x)$

ANS: _____

[9 pts]

19. Multiply: $4ab^4(11a^5b^3 + 9ab)$

ANS: _____

[13 pts]

20. Multiply: $(2x^2 - 3y^2)^2$

ANS: _____

[12 pts]

21. Multiply: $(7ab^2 - 10b)(7ab^2 + 10b)$

ANS: _____

[8 pts]

22. Simplify: $\frac{x^{235}y^{80}}{x^{75}y^{60}}$

ANS: _____

[7 pts]

23. Simplify: $\left(\frac{-x^{75}y^{74}}{x^{72}y^{73}}\right)^0$

ANS: _____

[9 pts]

24. Simplify: $\left(\frac{-x^5y^7}{3z}\right)^4$

ANS: _____

[8 pts]

25. Simplify: $\frac{-15w^{13}}{45w^9}$

ANS: _____

[9 pts]

26. Simplify: $\frac{-8a^{12}b^{10}c^6}{40a^6b^5c^4}$

ANS: _____

[9 pts]

27. Divide: $\frac{49y^6 - 28y^4 + 70y^3}{-7y^3}$

ANS: _____

[10 pts]

28. Divide: $\frac{9a^6b^3 - 12a^8b^2 - 3a^{14}b^6}{-3a^6b^2}$

ANS: _____

[17 pts]

29. Divide: $\frac{2x^2 - 13x + 21}{x - 3}$

ANS: _____

[22 pts]

30. Divide: $\frac{4y^3 - y - 5}{2y + 3}$

ANS: _____

[7 pts]

31. Simplify: $\frac{1}{(-3)^{-4}}$

ANS: _____

[8 pts]

32. Simplify: $\frac{y^{-6}}{(y^2)^4}$

ANS: _____

[10 pts]

33. Simplify: $\left(\frac{12x^5}{4x^2}\right)^{-4}$

ANS: _____

[10 pts]

34. Simplify: $(3a^{-5}b^6)^{-4}$

ANS: _____

Write each number in scientific notation.

[5 pts]

35. 370,000,000,000

ANS: _____

[5 pts]

36. 0.00000000549

ANS: _____

Perform the indicated operations. Write each answer in scientific notation.

[9 pts]

37. $\frac{5 \times 10^2}{20 \times 10^{-5}}$

ANS: _____

[9 pts]

38. $(2 \times 10^{-3})^4$

ANS: _____