Test on Monomial and polynomial operations. Name_____

Use the rules for exponents to simplify each of the following.

1. $\left(x^2y^4z^6\right)\left(x^3y^2z\right)$ 1. _____

2. $\left(5a^3b^4c^6\right)\left(3a^2b^5c^3\right)$ 2. _____

3. $\left(-4xy^5z^3\right)\left(3x^2y^4z^3\right)$ 3. _____

4. $\left(2e^3f^4g^2\right)\left(3e^3f^2g^3\right)\left(5e^2f^4g^2\right)$ 4. _____

5. $\left(2x^3y^4z^5\right)^3$ 5. _____

6. $\left(\frac{4e^3f^{-2}g^6}{24e^7f^5g^3}\right)$ 6. _____

7. $\left(\frac{15m^8x^{-3}y^3}{27m^2x^{-6}y^{-4}}\right)$ 7. _____

8. $\left(\frac{28a^{-3}b^3c^5}{21a^4b^{-4}c^{-2}}\right)^2$ 8. _____

9. $\left(\frac{8a^{-2}bc^2d^9}{10a^3b^{-2}c^{-3}d^5}\right)^2$ 9. _____

10. $\left(\dfrac{8x^{-2}y^{3}z^{4}}{24x^{5}y^{-4}z^{-2}}\right)^{3}$ 10. _____

11. $\left(-4a^{3}b^{-2}c^{7}\right)^{3}$ 11. _____

12. $3x^{4}y^{2}\left(5x^{2}y+2x^{3}y^{2}-3x\right)$ 12. _____

13. $4a^{2}b^{2}\left(3a^{3}b^{3}+2a^{2}b^{2}-5a^{2}b\right)$ 13. _____

14. $5e^{3}f^{2}\left(7e^{4}f+2e^{3}f-4e^{2}f\right)$ 14. _____

15. $2x^{2}y\left(4x^{3}y^{3}+6x^{2}y^{2}-7xy\right)$ 15. _____

Use **Scientific Notation** to answer each of the following, **round final answer** to the **nearest hundredth.**

16. $\dfrac{(2.39\times10^{11})-(4.53\times10^{10})-(8.53\times10^{9})}{(3.27\times10^{-8})\cdot(1.25\times10^{-6})}$ 16. _____

17. $\dfrac{(3.29\times10^{9})\cdot(1.28\times10^{-12})\cdot(5.72\times10^{-10})}{(4.37\times10^{-5})+(9.72\times10^{-6})}$ 17. _____

18. $\dfrac{(5.211\times10^{4})+(7.229\times10^{3})-(7.114\times10^{9})}{(8.711\times10^{2})-(3.573\times10^{9})}$ 18. _____

19. $\dfrac{(6.23\times10^{8})\cdot(2.13\times10^{-3})\cdot(4.21\times10^{-6})}{(1.98\times10^{-11})\cdot(1.13\times10^{-4})}$ 19. _____

20. $(8.53 \text{ x } 10^{11})(6.72 \text{ x } 10^{-6})$ 20. _____

21. $(8.13 \text{ x } 10^{-9})(3.41 \text{ x } 10^{14})$ 21. _____

Combine like terms with indicated operation.

22. $(4A^2+5AB-3B^2)+(3A^2-AB+7B^2)$ 22. _____

23. $(8x^2+3xy-5y^2)-(6x^2-4xy+3y^2)$ 23. _____

24. $(12x^2-9x)-(5x^2+2x)$ 24. _____

25. $-\dfrac{1}{4}m(8m+12)-3(5m^2+2m-7)$ 25. _____

26. $\dfrac{2}{7}y(14y+21)-\dfrac{2}{3}(6y^2+3y-9)$ 26. _____

Use (F.O.I.L.) or the double distributing idea.

27. $(3x-2)(5x+7)$ 27. _____

28. $(2m-5)(2m+5)$ 28. _____

29. $(5g+2)(2g+1)$ 29. _____

30. $(2p-11)(3p+4)$ 30. _____

31. $(2x-3)(x+1)$ 31. _____

32. $(2b+5)(3b+5)$ 32. _____

33. $(3w+4)^2$ 33. _____

34. $(9r-7)(9r+7)$ 34. _____

35. $(5f+3)^2$ 35. _____

36. $(2t-7)(2t+7)$ 36. _____

37. $(3m-4)(2m^2-3m+5)$ 37. _____

38. $(e-f)(e^2-2ef+f^2)$ 38. _____

39. $(n-1)(n+2)(n-3)$ 39. _____

40. $(x-3)(x+4)(x-5)$ 40. _____