

Name Key Period

Scientific Notation and Polynomial Quiz Review

Review Problems (Show your work for each)

Scientific Notation:

Write each number in scientific notation:		
1.) 200000 2.0×10^5	2.) 56720 5.672×10^4	3.) 75×10^4 7.5×10^5
4.) 0.0036 3.6×10^{-3}	5.) 99×10^2 9.9×10^3	6.) 0.25×10^{-3} 2.5×10^{-4}

Write each number in standard notation:		
7.) 8.62×10^3 8620	8.) 2.5×10^{-3} .0025	9.) 6.89×10^8 689,000,000
10.) 8.9×10^0 8.9	11.) 3.75×10^{-1} .375	12.) 45×10^{-4} .0045

Write each answer in scientific notation:	
13.) $(3.6 \times 10^2)(5 \times 10^5)$ 18×10^7 1.8×10^8	14.) $(6 \times 10^6)(4.32 \times 10^{-5})$ 25.92×10^1 2.592×10^2
15.) $\frac{8.4 \times 10^8}{2.0 \times 10^5}$ 4.2×10^3	16.) $\frac{6 \times 10^5}{4 \times 10^{-5}}$ $\frac{3}{2} \times 10^{10}$ 1.5×10^{10}

Rewrite each with a single exponent:		
17.) $7^4 \cdot 7^3$ 7^7	18.) $x^5 \cdot x^7$ x^{12}	19.) $(2^4)^5$ 2^{20}

Use the properties of exponents to rewrite each expression:

20.) $6m^2 \cdot 5m$

$$30m^3$$

21.) $x^2y^2 \cdot xy$

$$x^3y^3$$

22.) $(-5t^3)(2t^4)$

$$-10t^7$$

23.) $(r^6s^5)^2$

$$r^{12}s^{10}$$

24.) $\frac{24x^6}{6x^2}$

$$4x^4$$

25.) $\frac{25t^4v^4}{5t^7v^2}$

$$\frac{5v^2}{t^3}$$

Simplify each expression:

26.) $4n^5 + 6 + 2n^2 - 3 - 3n^4 + 2n^5 + 3n^2$

$$6n^5 - 3n^4 + 5n^2 + 3$$

27.) $(4x^3 + 3x^4) + (x^4 - 5x^3)$

$$4x^4 - x^3$$

28.) $(5x + 5) - (5x - 7)$

$$5x + 5 - 5x + 7$$

$$2$$

29.) $(13x^2 - 6x^5 - 2x) + (-10x^2 - 11x + 9x)$

$$-6x^5 + 2x^2 - 4x$$

30.) $3x(-5x^2 + 4x)$

$$15x^3 + 12x^2$$

31.) $(8x - 2)(7x + 6)$

$$56x^2 + 48x - 14x - 12$$

$$56x^2 + 34x - 12$$