

(#4)

## #4 Mult Monomials Basic

$$\textcircled{1} y(y^5) = y^6$$

$$\textcircled{2} n^2 \cdot n^7 = n^9$$

$$\textcircled{3} (-7x^2)(x^4) = -7x^6$$

$$\textcircled{4} x(x^2)(x^4) = x^7$$

$$\textcircled{5} m \cdot m^5 = m^6$$

$$\textcircled{6} (-x^3)(-x^4) = x^7$$

$$\textcircled{7} (2a^2)(8a) = 16a^3$$

$$\textcircled{8} (rs)(rs^3)(s^2) = r^2s^6$$

$$\textcircled{9} (x^2y)(4xy^3) = 4x^3y^4$$

$$\textcircled{10} \frac{1}{3}(2a^3b)(6ab^3) = 4a^3b^4$$

$$\textcircled{11} (-4x^3)(-5x^7) = 20x^{10}$$

$$\textcircled{12} (-3j^2k^4)(2jk^6) = -6j^3k^{10}$$

(# 5)

## #5 Mult. Monomials Basic Pt. 2

$$① (y^5)^2 = y^{10}$$

$$② (n^7)^4 = n^{28}$$

$$③ (x^2)^6 (x^3) = x^{10} x^3 = x^{13}$$

$$④ -3(ab^4)^3 = -3a^3b^{12}$$

$$⑤ (-3ab^4)^3 = (-3)^3 a^3 b^{12} = -27a^3 b^{12}$$

$$⑥ (4x^2b)^3 = 4^3 x^6 b^3 = 64x^6 b^3$$

$$⑦ (4a^2)^2 (b^3) = 16a^4 b^3$$

$$⑧ (4x)^2 (b^3) = 16x^2 b^3$$

$$⑨ (x^2 y^4)^5 = x^{10} y^{20}$$

$$⑩ (2a^3 b^2)^2 (b^3)^2 = 2a^3 b^2 b^4 = 2a^3 b^6$$

$$⑪ (-4xy)^3 (-2x^2)^3 = (-4)^3 x^3 y^3 (-2)^3 x^6 = -64 x^3 y^3 (-8x^6) = 512 x^9 y^3$$

$$⑫ (-3j^2 k^3)^2 (2j^2 k)^3 = (-3)^2 j^4 k^6 (2)^3 j^6 k^3 = 9 j^{10} k^9$$

$$⑬ (25a^2 b)^3 \left(\frac{1}{5}abc\right)^2 = 15625a^6 b^3 \left(\frac{1}{25}a^2 b^2 c^2\right) = 625a^8 b^5 c^2$$

$$⑭ (2xy)^2 (-3x^2) (4y^4) = 4x^2 y^2 (-3x^2) (4y^4) = -48x^4 y^6$$

$$⑮ (2x^3 y^2 z^2)^3 (x^2 z)^4 = 8x^9 y^6 z^6 x^8 z^4 = 8x^{17} y^6 z^{10}$$

$$\textcircled{16} (-2m^4y^5)(-6m^3y^2)(ny)^3 =$$
$$-2m^4y^5(-6m^3y^2)(m^3y^3) = 12m^{12}y^{10}$$

$$\textcircled{17} (-3a^3n^4)(-3a^3n)^4 = -3a^3n^4(81a^{12}n^4) =$$
$$-243a^{15}n^8$$

$$\textcircled{18} -3(2x)^4(4xy)^2 = -3(16x^4)(16x^2y^2) = -768x^6y^2$$

(# 8)

#8 Harder Mult. Monomials

①  $\frac{21a^2}{7b} \rightarrow$  no, variable in denominator

②  $\frac{b^3c^2}{2} \rightarrow$  yes

③  $(-5x^2y)(3x^4) = -15x^6y$

④  $(2ab^2c^2)(4a^3b^2c^2) = 8a^4b^4c^4$

⑤  $(3cd^4)(-2c^2) = -6c^3d^4$

⑥  $(4g^3h)(-2g^5) = -8g^8h$

⑦  $(-15xy^4)(-\frac{1}{3}xy^3) = 5x^2y^7$

⑧  $(-xy)^3(xz) = (-1)^3x^3y^3(xz) = -x^4y^3z$

⑨  $(-18m^2n)^2(-\frac{1}{6}mn^2) = 324m^4n^2(-\frac{1}{6}mn^2) = -54m^5n^4$

⑩  $(0.2a^2b^3)^2 = .04a^4b^6$  (or  $\frac{1}{25}a^4b^6$ )

⑪  $(\frac{2}{3}p)^2 = \frac{4}{9}p^2$

⑫  $(\frac{1}{4}cd^3)^2 = \frac{1}{16}c^2d^6$

⑬  $(.4k^3)^3 = .064k^9$

⑭  $[4^2]^2 = (4^4)^2 = 4^8$  or  $155536$

⑮  $A^2B^3 = (a^2b^4)(3ab^2) = 3a^3b^6$

$$16) A = \pi r^2 = 3.14(5 \times 3)^2 = 15.7 \times 10^6$$

$$17) A = \frac{b^2}{2} = \frac{(40^2)(1000^2)}{2} = \frac{240304}{2} = 120304$$

$$18) V = S^3 = (3m^2)^3 = 27m^6$$

$$19) V = 100m = m^3m(m^3)(m) = m^4m^5$$

$$20) V = \pi r^2 h = 3.14(30)^2(7g^2) = 3.14(900)(7g^2) = 1971.92g^4$$

$$21) 2(2^4) = 2(16) = 32 \text{ ways}$$

$$22) 2^3 = (8)^2 = 64 \text{ rocks}$$