

## Unit 1 Quick Review

Date \_\_\_\_\_ Period \_\_\_\_\_

Conversions *K H D b d c m*

1) Convert 30 hectograms to milligrams.

$$30 \text{ } \underbrace{\text{00000}}_{\text{milligrams}}$$

$$3,000,000$$

2) Convert 30 miles per hour to feet per second

$$\frac{30 \text{ miles}}{1 \text{ hr}} \times \frac{5280 \text{ ft}}{1 \text{ mile}} \times \frac{1 \text{ hr}}{60 \text{ min}} \times \frac{1 \text{ min}}{60 \text{ sec}}$$

$$\frac{158400}{3600} = 44 \text{ ft/sec}$$

Classify each polynomial by degree and term, then list the coefficients and constants.

3)  $2x$ 

D: 1 linear  
 T: 1 monomial  
 Coeff: 2  
 Constant: none

4)  $7n^2 - 9n - 7$ 

D: 2 Quadratic  
 T: 3 trinomial  
 coeff: 7, -9  
 con: -7

5)  $-4b^3 + 1$ 

D: 3 cubic  
 T: 2 binomial  
 Coeff: -4  
 con: 1

6)  $8p^4 + 2p^3 - 8p^2$ 

D: 4 quartic (4th power)  
 T: 3 trinomial  
 Coeff: 8, 2, -8  
 con: None

Simplify each expression.

7)  $(6n^2 - 8 - 5n) - (7n^2 + 4n + 4)$

$$\underline{6n^2} - 8 - \underline{5n} - \underline{7n^2} - \underline{4n} - 4$$

$$\boxed{-n^2 - 9n - 12}$$

8)  $(5m^4 - 2m^2 + 5m) + (8m - 6m^2 - 8m^4)$

$$\boxed{-3m^4 - 8m^2 + 13m}$$

9)  $(n + 7n^3 - 2) + (3n^3 + 6 - 4n) - (7n^3 - 1 + 5n)$

$$\underline{n} + \underline{7n^3} - \underline{2} + \underline{3n^3} + \underline{6} - \underline{4n} - \underline{7n^3} - \underline{1} + \underline{5n}$$

$$\boxed{3n^3 - 8n + 5}$$

Find each product.

10)  $7(3b+2)$

$21b + 14$

12)  $(2k-8)(7k-5)$

$14k^2 - 10k - 56k + 40$

$14k^2 - 66k + 40$

11)  $(8r^2-3)(8r^2+2)$

$64r^2 + 16r - 24r - 6$

$64r^2 - 8r - 6$

13)  $(2v^2-2)(8v^2+7v+1)$

$16v^3 + 14v^2 + 2v - 16v^2 - 14v - 2$

$16v^3 - 2v^2 - 12v - 2$

Simplify. 1 4 9 16 25 36 49 64 81 100 121 144 169...

14)  $-3\sqrt{27ab}$

$\sqrt{9}\sqrt{3}$

$-9\sqrt{3ab}$

$-9\sqrt{3ab}$

15)  $3\sqrt{8uv}$

$\sqrt{4}\sqrt{2}$

$6\sqrt{2uv}$

16)  $\sqrt{2} \cdot -5\sqrt{6}$

$2 \cdot -5\sqrt{12}$

$-10\sqrt{3}$

17)  $\sqrt{6} \cdot -4\sqrt{5}$

$-4\sqrt{30}$

18)  $-2\sqrt{3} - 3\sqrt{3} \rightarrow -2x - 3x$

$-5\sqrt{3}$

19)  $-\sqrt{24} - 3\sqrt{54}$

$-2\sqrt{6} - 9\sqrt{6}$

$-11\sqrt{6}$

20)  $-\sqrt{5} + 2\sqrt{20} - 2\sqrt{45}$

$-\sqrt{5} + 4\sqrt{5} - 6\sqrt{5}$

$-3\sqrt{5}$

21)  $-3\sqrt{24} - 3\sqrt{20} - \sqrt{6}$

$-6\sqrt{6} - 6\sqrt{5} - \sqrt{6}$

$-7\sqrt{6} - 6\sqrt{5}$