

Unit 1: Expressions  
Mixed Review

For each of the following expressions, identify the:

- a) Terms
- b) Coefficients
- c) Variables
- d) Exponents
- e) Constants

IF you cannot identify any of these, write NONE.

1. $27x^4 - 2x^5 - 7x - 12$	2. $-2a^3 - 5 + a^2 - a + 9a^4$
a)	a)
b)	b)
c)	c)
d)	d)
e)	e)

Simply each of the following expressions using the order of operations and showing all of your steps along the way:

3.  $(12 \div 3 - (-4 + 5)) \times 7$

4.  $(12 \times 2) \div (-1 + 4 + 1) \times 3^3$

Evaluate each using the values given:

5.  $3h(h - j)$ ; use  $h = -3$  and  $j = 1$

6.  $2(c - (b \div 6 - a \div 4) + 2)$ ; use  $a = 4$ ,  $b = -6$ , and  $c = -5$

**Simplify using the distributive property and combining like terms when possible:**

7.  $10x - 3x + 7 - 2 - 15x - 7$

8.  $7(-x + 6) - 2(-7x + 10)$

**Translate into an algebraic expression using numbers, variables, and operation signs:**

9. Five less than the sum of a number and eight

10. The sum of one and a seven times a number

11. The quotient of a negative number and six.

12. The product of thirty two and a number

13. The difference of eighteen and a number cubed

14. The sum of a number squared and five

**Write a verbal expression for each algebraic expression:**

15.  $-19 - 5x$

16.  $-x + 27y$

17.  $-3(x^2 + 5)$

18.  $\frac{-3x}{2}$

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19.  $-9t$

20.  $-(3y - 8) + 10$