46

Unit 1: Expressions

PRE-TEST

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. $-3x^3 + 5x^2 - 8x + 15$	2. $9a^2 + 3 - 7a^5 - a + a^4$
a) $-3x^3$; $5x^2$; $-8x$; 15	a) $9a^2$; 3; $-7a^5$; $-a$; a^4
b) -3; 5; -8	b) 9; -7; -1; 1
c) x	c) a
d) -3; 5; -8	d) 2; 5; 1; 4
e) 15	e) 3

5 pts

5 pts.

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

3. $(10 \div 5 - (5 - 4)) \times 2$

$(10 \div 5 - (1)) \times 2$

$(2 - 1) \times 2$

1×2

$\boxed{2}$

4. $(9 \times 2) \div (6 + 1 - 1) \times 2^3$

$18 \div (6 + 1 - 1) \times 2^3$

$18 \div (7 - 1) \times 2^3$

$18 \div (6) \times 2^3$

$18 \div 6 \times 8$

3×8

$\boxed{24}$

2pts

pts

Evaluate each using the values given:

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

$3 \times 3(3 - 1)$

$3 \times 3(2)$

$9(2)$

$\boxed{18}$

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

$2(5 - (6 \div 6 - 4 \div 4) + 2)$

$2(5 - (1 - 4 \div 4) + 2)$

$2(5 - (1 - 1) + 2)$

$2(5 - (0) + 2)$

$2(5 + 2)$

$2(7)$

$\boxed{14}$

pts

2pts

18 pts

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

7. $6x + 4x - 3 + 8 - 9x + 4$

$1x + 9$

2pts.

8. $-3(x-5) + 2(-2x+7)$

$-3x + 15 - 4x + 14$

$-7x + 29$

2pts

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

9. Five more than the sum of a number and seven

$(n + 7) + 5$

10. The difference of ten and a three times a number

$10 - 3n$

12 pts (2 each)

11. The quotient of a number x and fifteen.

$\frac{x}{15}$

12. The product of negative twelve and a number

$-12x$

13. Eight less than a number cubed

$n^3 - 8$

14. The sum of twenty-eight and a number squared

$28 + n^2$

Write a verbal expression for each algebraic expression:

15. $14 + 3x$

The sum of fourteen and three times a number x

2pts (2 each)

16. $12x - 7y$

Twelve times x minus seven times y

17. $-2(t^2 - 5)$

Neg two times the difference of t squared and five

18. $\frac{x}{13}$

The quotient of a number x and Thirteen.

19. $5s$

Five times a number s

20. $6(y + 2) - 3$

two less than.
Six times the sum of a number y and two

+28pts.