**Review Practice**

Remember the correct order of operations:

PEMDAS: Parenthesis, Exponents, Multiplication, Division, Addition, Subtraction

FIRST → LAST

*To receive credit, you must show your work.*

1. Evaluate WITHOUT a calculator.

a. $12 + 2 * 3$

Multiply 1st

$= 12 + 6 = 18$

b. $5 + 2(3 + 2^2)$

$5 + 2(3 + 4)$

$5 + 2(7)$

$5 + 14 = 19$

note:

$-3^2 = -9$

but

$(-3)^2 = 9$

c. $-3^2 + 5 + 4 * 2$

$-9 + 5 + 8 = -4 + 8 = 4$

d. $-5 - (-4) + (-10) - (-2)(3)$

$-5 + 4 - 10 + 6$

$= -1 - 10 + 6 = -5$

e. $12 \div 4 * 3 - 5$

$3 * 3 - 5$

$9 - 5$

$= 4$

Here: Move left to right:

1st: $12/4 = 3$

2nd: $3 * 3 = 9$

3rd: $9 - 5 = 4$

f. $3[5 + 6(7 - 3) + 7]$

$6 \cdot 4$

$3[5 + 24 + 7]$

$3(36) = 108$



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**Review Practice**

Name_____

2. Simplify by combining like terms.

a. $3a^2 - 2b^2 - 7a^2 - 3b^2$ $= -4a^2 - 5b^2$

b. $\frac{1}{5}ab^2 - \frac{3}{10}ab^2 + \frac{2}{5}ab^2 + \frac{7}{10}ab^2$

need common denominators

multiply by $\frac{2}{2}$: $= \frac{2}{10}ab^2$

$= \frac{4}{10}ab^2$ (we multiply by $\frac{2}{2}$)

like terms, like terms

$= -\frac{1}{10}ab^2 + \frac{4}{10}ab^2 = \boxed{\frac{-3}{10}ab^2}$

c. $3(2u^2 + 1) + 4(u^2 - 5)$

distribute: $6u^2 + 3 + 4u^2 - 20$

combine: $\boxed{10u^2 + 23}$

d. $3(2x - 3y) - 4(3x + 5y) - x$

distribute: $6x - 9y - 12x - 20y - x$

combine: $\boxed{-7x - 29y}$

e. $-5(x^2 - 4) - 2(3x^2 + 6) + (2x^2 - 1)$

distribute: $-5x^2 + 20 - 6x^2 - 12 + 2x^2 - 1$

combine: $-9x^2 + 7$



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**Review Practice**

Below: when you see the phrase "a number" think the variable $n$.

Name: _____

3. Translate each English phrase into an algebraic expression.

a. Four increased by twice a number

4 + 2n = $4 + 2n$

b. Six less than two-thirds of a number

start: $\frac{2}{3}n$

then "less six" or subtract six so = $\frac{2}{3}n - 6$

c. Ten times the difference of a number and 14

10 * $(n-14)$ = $10(n-4)$

d. Eight subtracted from the quotient of a number and seven

$-8$ is going at the end; $n/7$

= $\frac{n}{7} - 8$

e. The quotient of a number and three less than the number

one big fraction

$\frac{n}{n-3}$

4. What is your major?

5. What is the highest math class you need to take?

6. What is the highest math class you want to take?



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