Name: Key
DISCRETE

Date: 5/1/18
TROICI/GOSSE

LESSON #2: COMBINING LIKE TERMS

Warm up: For the expression $5x^3 + 6x^2$

A) Identify each term:

$5x^3$ and $6x^2$

B) For each term, identify the coefficient, variable and exponent

coefficient	5	and	6
variable	x	and	x
exponent	3	and	2

Like Terms

"Like terms" are **terms** whose variables (and their exponents such as the 2 in x^2) are the same.

In other words, terms that are "like" each other.

Note: the **coefficients** (the numbers you multiply by, such as "5" in 5x) can be different.

Circle the like terms.

Example 1: $5x^2$ $3x^4$ $7x^2$

Example 2: $-6x^3$ $-2x$ $4x$

Add/subtract monomials:

a) $-3x^2 + 4x + 5x^3 - 6x^2 - 3x$

$5x^3 - 9x^2 + x$

b) $1x^2 + 3x + 1 + 2x^2 - x - 2$

$3x^2 + 2x - 1$

FIX

c) $9x^2 - 5x + -4x^2 - 8x$

$5x^2 - 13x$

d) $x^2 + 2x - 3 - x^2 - 4$

$2x - 7$

Multiplying and Power Practice:

a) $(5x)(6y)$ $30xy$	b) $(3x)(7x)$ $21x^2$	c) $(4x^2)(2x^4)$ $8x^6$	d) $3x^3(2x^5)$ $6x^8$
e) $7b^2(b^5)$ $7b^7$	f) $2x^5y^2(5xy^3z^2)$ $10x^6y^5z^2$	g) $-2x^3y^2(5x^4y)$ $-10x^7y^3$	h) $(5x^4)^2$ $25x^8$
i) $(3x^2)^3 = 3^3x^{2\cdot3}$ $27x^6$		j) $(-2x^3)^3$ $(-2)^3x^{3\cdot3}$ $-8x^9$	

Dividing Practice:

a) $\frac{-30x^6}{2x^4}$ $-15x^2$	b) $\frac{-21a^5b^4}{-3a^4b}$ $7ab^3$	c) $\frac{12y^2z^2}{4y^2z}$ $3z$
d) $\frac{24a^5}{-3a^2}$ $-8a^3$	e) $\frac{-18x^3y^2}{-6x^2y}$ $3xy$	f) $\frac{20a^3c^4d^2}{-5a^3c^3}$ $-4cd^2$

How Does a Hawaiian Baritone Laugh?

Simplify each expression below. Find your answer at the bottom of the page and cross out the letter above it. When you finish, the answer to the title question will remain.

1. $-3x + 9x$ = $6x$
2. $2y - 10y$ = $-8y$
3. $-6x + x$ = $-5x$
4. $12y - y$ = $11y$
5. $-4x - 5x$ = $-9x$
6. $8y - (-8y)$ = $16y$
7. $-x - (-10x)$ = $9x$
8. $-2y + 7y + 4$ = $5y+4$
9. $5x + 7 + x - 9x$ $-3x+7$
10. $-8y - 2y - 4 + 4y$ $-6y-4$
11. $6x - (-3x) + x - 6$ $10x-6$
12. $4x + 2y + 4x - 5y$ $8x-3y$
13. $6x + 8y - 3 - 7y$ $6x+y-3$
14. $-6x - 2y + 8 + 5x - 1$ $-x-2y+7$
15. $9 - 3x - (-8y) + 9x - y$ $6x+7y+9$
16. $x - 4y - 12 - 5y + 8y$ $x-9y+8y-12$ $x-y-12$
17. $3x + 7 - 7y + 2x - 3y - 1$ $5x-10y+6$
18. $-9x - y + 1 + 5y + 5x - 10$ $-4x+4y-9$
19. $-x + 8 + 6x - 4y - 8x + 3$ $-3x-4y+11$
20. $4x - 7 + y - 7x - (-3y)$ $-3x+4y$
21. $8x - 5y - x + 9 - y$ $7x-6y+9$

H	A	B	S	[illegible]	L	E	[illegible]	[illegible]	[illegible]	[illegible]	E	O	L	C	[illegible]	F	[illegible]	W	H	[illegible]	[illegible]	[illegible]	T	A	[illegible]	G
$7x-6y+9$	$7x-8y+7$	$8x-3y$	$-3x+4y-7$	$5y+4$	$-4x+7y-6$	$6x$	$10x-6$	$6x+7y+9$	$-9x$	$-3x+7$	$-3x-4y+11$	$-3x+5y-1$	$-8y$	$-x-2y+7$	$16y$	$11y$	$-6y-4$	$x-3y-10$	$6x-6$	$-5x$	$9x$	$6x+y-3$	$5x-10y+6$	$5x-5y+4$	$x-y-12$	$-4x+4y-9$

OBJECTIVE 3–a: To simplify expressions by combining like terms.

Divide Polynomial by monomial

g) $\frac{10s+6y}{2}$

$\frac{10s}{2} + \frac{6y}{2}$

$5s + 3y$

h) $\frac{2x+2y}{2}$

$\frac{2x}{2} + \frac{2y}{2}$

$x+y$

i) $\frac{21a^2b-3ab}{3ab}$

$\frac{21a^2b}{3ab} - \frac{3ab}{3ab}$

$7a - 1$

j) $\frac{18r^5+12r^3}{6r^2}$

$\frac{18r^5}{6r^2} + \frac{12r^3}{6r^2}$

$3r^3 + 2r$

k) $\frac{24x^3y^4-18x^2y^3-6xy}{-6xy}$

$\frac{24x^3y^4}{-6xy} - \frac{18x^2y^3}{-6xy} - \frac{6xy}{6xy}$

$-4x^2y^3 - -3xy^2 - 1$

$-4x^2y^3 + 3xy^2 - 1$

l) $\frac{cm+cn}{c}$

$\frac{cm}{c} + \frac{cn}{c}$

$m+n$

m) $(8a^5 - 6a^4) \div 2a^2$

$\frac{8a^5}{2a^2} - \frac{6a^4}{2a^2}$

$4a^3 - 3a^2$