

I'm not a robot!

**Free Worksheet on the  
Combining Like Terms**

Combining like terms

Name: KEY \_\_\_\_\_

Fill out the chart below:

Expression	Value when $x=3$ & $y=2$	Simplified	Value when $x=3$ & $y=2$
A $x^2 + 3x - 5 + x^2 - 3x + 11$	24	$2x^2 + 6$	24
B $x^2 + 2x^2 + 3x^2 + 4x^2$	90	$10x^2$	90
C $2x^2 - 5 - x^2 + 6$	10	$x^2 + 1$	10
D $4x^2 + 16 - 3x^2 - 9$	16	$x^2 + 7$	16
E $x^2 + 4x - x^2 + 2x - 1$	17	$6x - 1$	17
F $12x - x$	33	$11x$	33
G $8x - 2y + 8x + 12y - 14$	54	$16x + 10y - 14$	54
H $2x^2 + y^2 + 10xy + 13x^2 + 11xy + 6y^2$	289	$15x^2 + 7y^2 + 21xy$	289
I $3y^2 + 4x - y^2 - x + 1$	18	$2y^2 + 3x + 1$	18
K $-(9 - 3x)$	0	$-9 + 3x$	0
L $16 - (-x + 10)$	9	$6 + x$	9
M $12x - (7x - 2x)$	21	$7x$	21
N $4x^2 - 2y + 11yx^2 + 6y - x^2$	233	$3x^2 + 11yx^2 + 4y$	233
O $11x - (10x + 6x)$	-15	$-5x$	-15
P $y + y + 5y$	14	$7y$	14
R $7x - 10x$	-9	$-3x$	-9
S $7x - 8y + 2x + 5y + 210$	231	$9x - 3y + 210$	231
T $-(6 + 6x)$	-24	$-6 - 6x$	-24
U $6 - (-x - 10)$	19	$16 + x$	19

The essence of mathematics  
is not to make simple things  
complicated, but to make  
complicated things simple.  
S. Gudder



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**E**

$$3x + 4x^2 - 6 + 8x - 7x^2$$

→

$$10x^4 + 6x + 2$$

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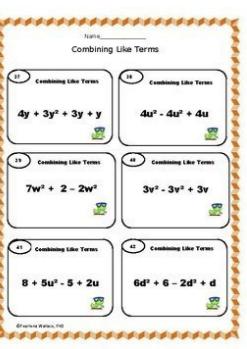
## Simplifying Expressions

Name \_\_\_\_\_

Simplify each expression and match it to the simplified version.

$a+2b+2b-4$	→	$a+4b-4$	<b>N</b>
$3a+8a-2b$	→	$11a-2b$	<b>P</b>
$8a+2b+3a-9b$	→	$11a-7b$	<b>J</b>
$8a-8+4a-4b$	→	$12a-4b-8$	<b>B</b>
$7a-14b+14+7b$	→	$7a-7b+14$	<b>A</b>
$3a+8-4b-12+2a$	→	$5a-4b-4$	<b>I</b>
$2b-8-3a-6b-9$	→	$-3a+4b-17$	<b>L</b>
$-3a+3b-14a-7b$	→	$-17a-4b$	<b>E</b>
$4a-2b-4a-12b$	→	$-14b$	<b>G</b>
$-6a-4b+2+3a+12b-6$	→	$-3a+8b-4$	<b>H</b>
$a-2b+5a-6$	→	$6a-2b-6$	<b>O</b>
$-15a-3b+16a+4b$	→	$a+b$	<b>M</b>
$2a-4b-3a+6b+6$	→	$-a+2b+6$	<b>C</b>
$2a+2b-6a-3-2b+6$	→	$-4a+3$	<b>D</b>
$3a-6b-6+2a+6b+2$	→	$5a-4$	<b>K</b>
$3a+4a+2b-4+5b-10$	→	$7a+7b-14$	<b>F</b>

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## **Lesson 4: Algebraic Concepts**

GLE-12

 Practice

**Directions:** For Numbers 1 through 12, simplify each expression.

KEY

$$1. \quad 4y - y + 6 \quad \underline{3y} + 6$$

$$2. \quad -5 - 12b - 7 \quad -12 - 12b$$

$$3. \quad \underline{9 + 5r} + \underline{11r} - \underline{12} = 16r - 3$$

$$4. \quad \underline{-17} + \underline{4} + 9j$$

5.  $6q + 3q^2 + 4$  Simplified

$$6. \quad -\underline{11y} + \underline{12} - \underline{3y} + \underline{4} = -14y + 16$$

$$7. \underline{3p} - 7 - \underline{11p}$$

$$8. -15f + 6 + 7$$

$$9. \frac{5 + 3z^2}{-} = \frac{8 - 9z^2}{-} \quad -\sqrt{z^2 + 13}$$

$$10. \quad 3d^2 + \underline{5d} + \underline{2d} + 4 \quad 3d^2 + 7d + 4$$

11.  $\underline{6v + 7x} - \underline{4v}$

$$12. \frac{4g^2 + 5g^2 + 9g}{g} - 3g = 9g^2 + 10g$$

