

Name:

Date

: Hour:

## Unit 2 Study Guide

### Algebraic Expressions

Combining Like Terms:

1)  $5x + 9 + 2x - 4$

| variable (x) | constants |
|--------------|-----------|
| $5x$         | $9$       |
| $+ 2x$       | $- 4$     |
| $7x$         | $+ 5$     |

2)  $10r - 5 + 3 + r$

| variable (r) | constants |
|--------------|-----------|
| $10r$        | $- 5$     |
| $+ 1r$       | $+ 3$     |
| $11r$        | $- 2$     |

3)  $9c + 3d - 7c - 8d$

| Variable (c) | Variable (d) |
|--------------|--------------|
| $9c$         | $3d$         |
| $- 7c$       | $- 8d$       |
| $2c$         | $- 5d$       |

4)  $4n^2 - n^2$

| Variable ( $n^2$ ) |
|--------------------|
| $4n^2$             |
| $- 1n^2$           |
| $3n^2$             |

5)  $6 + 7.2y - 4.2y + 1$

| variable (y) | constants |
|--------------|-----------|
| $7.2y$       | $6$       |
| $- 4.2y$     | $+ 1$     |
| $3y$         | $+ 7$     |

Challenge: Simplify and combine like terms.

1)  $7y - (4y + 9y)$

$$7y - 4y - 9y$$

$$- 6y$$

6)  $15ab + 2bc - 4ab - 10bc$

| variable (ab) | variable (bc) |
|---------------|---------------|
| $15ab$        | $+ 2bc$       |
| $- 4ab$       | $- 10bc$      |
| $11ab$        | $- 8bc$       |

2)  $6(2a + 1) + 3(2 - 3a)$

| $12a + 6 + 6 - 9a$ |           |
|--------------------|-----------|
| variable (a)       | constants |
| $12a$              | $+ 6$     |
| $- 9a$             | $+ 6$     |
| $3a$               | $+ 12$    |

3)  $3(6 + b) - 5(b + 1)$

$$18 + 3b - 5b - 5$$

| variable (b) | constants |
|--------------|-----------|
| $3b$         | $18$      |
| $- 5b$       | $- 5$     |
| $- 2b$       | $+ 13$    |

4)  $5(3a + 5b - 2c) + 2(3a - 2b)$

$$15a + 25b - 10c + 6a - 4b$$

| variable (a) | variable (b) | variable (c) |
|--------------|--------------|--------------|
| $15a$        | $25b$        | $- 10c$      |
| $+ 6a$       | $- 4b$       |              |
| $21a$        | $+ 21b$      | $- 10c$      |