

NAME \_\_\_\_\_

DATE \_\_\_\_\_

## ADD & SUBTRACT POLYNOMIALS: Worksheet 1

Coefficients:

- 1) Name the coefficient of the 2<sup>nd</sup> term.  $3w^2 + 5w - 6$
- 2) Name the coefficient of the 1<sup>st</sup> term.  $y^3 - 2y^2 + 3y - 7$
- 3) Name the coefficient of the 3<sup>rd</sup> term.  $-9w^3 + 4w^2 - 2w - 5$

Are the following like terms (yes or no)?

- |              |                        |                   |
|--------------|------------------------|-------------------|
| 4) $2a$ $7a$ | 5) $4x^2$ $4x^3$       | 6) $3ab$ $-2ab$   |
| 7) $7$ $12$  | 8) $-w^3y^2$ $4w^2y^3$ | 9) $6t^4y$ $t^4y$ |

Simplify by combining like terms.

- |                   |                             |                               |
|-------------------|-----------------------------|-------------------------------|
| 10) $4x - 6 - 6x$ | 11) $7y^2 + 6y - 2y^2 + 3y$ | 12) $w^2 + 3w - 2 + 5w^2 + 6$ |
|-------------------|-----------------------------|-------------------------------|

Add the following polynomials.

- |                                     |  |  |
|-------------------------------------|--|--|
| 13) $(2z + 1) + (4z - 3)$           | 14) $(4t^2 + 7t) + (t^2 - 3t)$         | 15) $(5x - 4) + (4x^2 - 2x + 9)$       |
| 16) $(9y^2 - 6y + 3) + (-3y^2 - 3)$ | 17) $(x^2 - 3x + 1) + (2x^2 - 7x + 4)$ | 18) $(3r^2 + r - 2) + (4r^2 - 5r + 4)$ |

Subtract the following polynomials.

- |                                      |   |   |
|--------------------------------------|---|---|
| 19) $(3x + 4) - (5x - 7)$            | 20) $(2z^2 - 9) - (z^2 - 10)$           | 21) $(5y - 2) - (-3y^2 + 4y - 2)$       |
| 22) $(2h^2 + 2h - 11) - (4h^2 - 6h)$ | 23) $(-x^2 - 7x - 2) - (5x^2 - 3x + 1)$ | 24) $(4q^2 + 3q + 1) - (-2q^2 + q - 4)$ |

**KEY**

**ADD & SUBTRACT POLYNOMIALS: Worksheet 1**

Coefficients:

- 1) Name the coefficient of the 2<sup>nd</sup> term.  $3w^2 + 5w - 6$   
5
- 2) Name the coefficient of the 1<sup>st</sup> term.  $y^3 - 2y^2 + 3y - 7$   
1
- 3) Name the coefficient of the 3<sup>rd</sup> term.  $-9w^3 + 4w^2 - 2w - 5$   
-2

Are the following like terms (yes or no)?

- |                         |                                  |                              |
|-------------------------|----------------------------------|------------------------------|
| 4) $2a$ $7a$ <i>yes</i> | 5) $4x^2$ $4x^3$ <i>no</i>       | 6) $3ab$ $-2ab$ <i>yes</i>   |
| 7) $7$ $12$ <i>yes</i>  | 8) $-w^3y^2$ $4w^2y^3$ <i>no</i> | 9) $6t^4y$ $t^4y$ <i>yes</i> |

Simplify by combining like terms.

- |                                |  |  |
|--------------------------------|--|--|
| 10) $4x - 6 - 6x$<br>$-2x - 6$ | 11) $7y^2 + 6y - 2y^2 + 3y$<br>$5y^2 + 9y$ | 12) $w^2 + 3w - 2 + 5w^2 + 6$<br>$6w^2 + 3w + 4$ |
|--------------------------------|--|--|

Add the following polynomials.

- |  |  |   |
|--|--|---|
| 13) $(2z + 1) + (4z - 3)$<br>$6z - 2$              | 14) $(4t^2 + 7t) + (t^2 - 3t)$<br>$5t^2 + 4t$              | 15) $(5x - 4) + (4x^2 - 2x + 9)$<br>$4x^2 + 3x + 5$       |
| 16) $(9y^2 - 6y + 3) + (-3y^2 - 3)$<br>$6y^2 - 6y$ | 17) $(x^2 - 3x + 1) + (2x^2 - 7x + 4)$<br>$3x^2 - 10x + 5$ | 18) $(3r^2 + r - 2) + (4r^2 - 5r + 4)$<br>$7r^2 - 4r + 2$ |

Subtract the following polynomials.

- |   |   |  |
|---|---|--|
| 19) $(3x + 4) - (5x - 7)$<br>$-2x + 11$                   | 20) $(2z^2 - 9) - (z^2 - 10)$<br>$z^2 + 1$                  | 21) $(5y - 2) - (-3y^2 + 4y - 2)$<br>$3y^2 + y$            |
| 22) $(2h^2 + 2h - 11) - (4h^2 - 6h)$<br>$-2h^2 + 8h - 11$ | 23) $(-x^2 - 7x - 2) - (5x^2 - 3x + 1)$<br>$-6x^2 - 4x - 3$ | 24) $(4q^2 + 3q + 1) - (-2q^2 + q - 4)$<br>$6q^2 + 2q + 5$ |