Math Antics

Worksheets

Identifying and Combining 'Like' Terms

Instructions: For each problem, if the pair of terms shown are 'Like' Terms, then combine them into a single term in the space provided. Otherwise, write "not like" if the terms can't be combined.

1 $4x$ and $6x$ _____10x_____

2 $5x$ and $5y$ _____not like_____

3 $2y^2$ and $2y^2$ _____

4 x^2 and x^2 _____

5 b^2 and $2b^3$ _____

6 $4x^2$ and $-x^2$ _____

7 xy^2 and yx^2 _____

8 $-x^2$ and $-x^2$ _____

9 $-5b^2$ and $-b^2$ _____

10 $4x^2$ and $-4x^2$ _____

11 $3ab^2$ and $4ab^2$ _____

12 $4a^2$ and $-a^4$ _____

13 $-a^4$ and $2y^4$ _____

14 $10x^2$ and $-7x^2$ _____

15 $8y$ and $8y$ _____

16 $4x^2$ and $-x^2$ _____

17 $-xy$ and $-2yx$ _____

18 $\frac{1}{2}x$ and $\frac{1}{2}x$ _____

19 $6c^2$ and $2c^2$ _____

20 $-x$ and $-10x$ _____

21 $4y^5$ and xy^4 _____

22 $\frac{1}{3}x$ and $\frac{1}{3}x$ _____

▶ **Simplifying Polynomials • mathantics.com**

Name: _____

Date: _____

Simplifying Basic Polynomials - Set 1

Instructions: Simplify each polynomial below by combining 'like' terms. Do your best to arrange the terms of the simplified polynomial in order from highest to lowest degree.

1 $5x + 10 - 2x + 5$

$3x + 15$

2 $12x + 10 - 2x - 8$

3 $3x^2 - 4 - 2x^2 + 5$

4 $5x + 4y + 7x + y$

5 $3b + 2b + b + 2$

6 $-3b - 2b - b - 2$

7 $-y + 7 + y + 3$

8 $3x + 4x^2 - 5x^2 + 1 + 15$

9 $-x^3 + x^3 + x + 4$

10 $-2x^3 + 4x^2 + 9 + x^2$

11 $3y^2 - y^2 - 2x^2 + x$

12 $-3ab + 5a + 7ab + 2b$

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Date: _____

Simplifying Basic Polynomials - Set 2

Instructions: Simplify each polynomial below by combining 'like' terms. Do your best to arrange the terms of the simplified polynomial in order from highest to lowest degree.

1 $3a + b - 4b + 5a$

$8a - 3b$

2 $x + 10x + 2y - 8$

3 $10x^2 - 4 - 2x^2 + x^2$

4 $3b + a - b + 2a$

5 $6y^3 - y^3 - 2x^2 + x^2$

6 $-2y + 2 + 3y + 1$

7 $1 + 3x + 4x^2 - 5x + 8$

8 $12x + 3y + 6x + y$

9 $-4a^3 + 1 + a^3 + 7a^2$

10 $-2 + 35b - 8b - 2b$

11 $-2b + 3ab + a + 9ab$

12 $-x^3 + 2x + 2x^3 - x + x^2$

Name: _____

Date: _____

Simplifying Longer Polynomials

Instructions: Simplify each polynomial below by combining 'like' terms. Do your best to arrange the terms of the simplified polynomial in order from highest to lowest degree.

1 $5x + 7 - 3x^3 + 5 - x^3$

$-4x^3 + 5x + 12$

2 $8x^2 + 20 - 2x^2 - 4$

3 $15 + 3y - y + 5y - 1$

4 $-5x + 4y + 7y - 8 + 2x$

5 $x + 2x^4 + 9x - 10x^4$

6 $-3a - 2ab - a + 2abc$

7 $24 + b^2 - y + 7b^2 + 2y + 4$

8 $3xy + 6 + 4x^5 - 5xy + 9$

9 $x^2 + x^3 - x^4 + x - x^3 + x^4$

10 $-2x^3 + 8x^3 + 9x^3 - x^3$

11 $6a^3 - b^2 - 2a^3 + 2c - 2b^2$

12 $x^2y + 4xy + 5yx + 2y^2x$

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Worksheets

Simplifying Realy Long Polynomials (optional)

Instructions: Simplify each polynomial below by combining 'like' terms. Do your best to arrange the terms of the simplified polynomial in order from highest to lowest degree.

1 $x^2 + 5y - 5 + 8x^3 + 4 + 7y - 4x^2 + 10 - 4x^2$

       $8x^3 - 7x^2 + 12y + 9$

2 $8x - 7x^3 + 14 + 7x - x^2 - 6 - x^3 + 4x^2$

3 $10c + b + 7a - 5c - a + 5b + 4b + 8a - 6c$

4 $28 + x^2 + 7y^2 - 2xy + 3x^2 + 4 + 10xy - 6y^2$

5 $a + a^2 + 4a^2 - 5a - a^2 + 9a + 8a^2 - a$

6 $20 + 12x^2 - 5 - 10x + 4x^2 + 8x^3 + x - 7x^3$

Simplifying Polynomials

1 Are these "like" terms?

x^2 and x $5x$ and $-3x$

☐ **Yes**   ☐ **Yes**

☐ **No**   ☐ **No**

2 Are these "like" terms?

$2y$ and $2x$ $3xy$ and $4yx$

☐ **Yes**   ☐ **Yes**

☐ **No**   ☐ **No**

3 Simplify.

$$4x^2 + 7 + 2x^2 + 3$$

4 Simplify.

$$12x^2 - 7 - 10x^2 + 4$$

5 Simplify.

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

6 Simplify.

$$-x^4 - x^4 + 7x + 5x - x + 3$$

7 Simplify.

$$2x^3 + 5x^2 + 10x^2 + 20 + x^3$$

8 Simplify.

$$x^3 - 5x^2 - 10x^3 + 8x + 9x^2$$

9 Simplify.

$$xy + 3x + 8y - x + 5 - 2y$$

10 Simplify. (Careful! This one is tricky.)

$$6yx + 3x^2y - 4y^2x + 2xy$$

Math Antics Worksheets

Identifying and Combining 'Like' Terms

Instructions: For each problem, if the pair of terms shown are 'Like' Terms, then combine them into a single term in the space provided. Otherwise, write "not like" if the terms can't be combined.

1 $4x$ and $6x$ $10x$

2 $5x$ and $5y$ not like

3 $2y^2$ and $2y^2$ $4y^2$

4 x^2 and x^2 $2x^2$

5 b^2 and $2b^3$ not like

6 $4x^2$ and $-x^2$ $3x^2$

7 xy^2 and yx^2 not like

8 $-x^2$ and $-x^2$ $-2x^2$

9 $-5b^2$ and $-b^2$ $-6b^2$

10 $4x^2$ and $-4x^2$ 0

11 $3ab^2$ and $4ab^2$ $7ab^2$

12 $4a^2$ and $-a^4$ not like

13 $-a^4$ and $2y^4$ not like

14 $10x^2$ and $-7x^2$ $3x^2$

15 $8y$ and $8y$ $16y$

16 $4x^2$ and $-x^2$ $3x^2$

17 $-xy$ and $-2yx$ $-3xy$

18 $\frac{1}{2}x$ and $\frac{1}{2}x$ x

19 $6c^2$ and $2c^2$ $8c^2$

20 $-x$ and $-10x$ $-11x$

21 $4y^5$ and xy^4 not like

22 $\frac{1}{3}x$ and $\frac{1}{3}x$ $\frac{2}{3}x$

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Simplifying Basic Polynomials - Set 1

Instructions: Simplify each polynomial below by combining 'like' terms. Do your best to arrange the terms of the simplified polynomial in order from highest to lowest degree.

1 $5x + 10 - 2x + 5$

$3x + 15$

2 $12x + 10 - 2x - 8$

$10x + 2$

3 $3x^2 - 4 - 2x^2 + 5$

$x^2 + 1$

4 $5x + 4y + 7x + y$

$12x + 5y$

5 $3b + 2b + b + 2$

$6b + 2$

6 $-3b - 2b - b - 2$

$-6b - 2$

7 $-y + 7 + y + 3$

10

8 $3x + 4x^2 - 5x^2 + 1 + 15$

$-x^2 + 3x + 16$

9 $-x^3 + x^3 + x + 4$

$x + 4$

10 $-2x^3 + 4x^2 + 9 + x^2$

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

11 $3y^2 - y^2 - 2x^2 + x$

$2y^2 - 2x^2 + x$

12 $-3ab + 5a + 7ab + 2b$

$4ab + 5a + 2b$

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Name: _____

Date: _____

Simplifying Basic Polynomials - Set 2

Instructions: Simplify each polynomial below by combining 'like' terms. Do your best to arrange the terms of the simplified polynomial in order from highest to lowest degree.

1 $3a + b - 4b + 5a$

$8a - 3b$

2 $x + 10x + 2y - 8$

$11x + 2y - 8$

3 $10x^2 - 4 - 2x^2 + x^2$

$9x^2 - 4$

4 $3b + a - b + 2a$

$2b + 3a$

5 $6y^3 - y^3 - 2x^2 + x^2$

$5y^3 - x^2$

6 $-2y + 2 + 3y + 1$

$y + 3$

7 $1 + 3x + 4x^2 - 5x + 8$

$4x^2 - 2x + 9$

8 $12x + 3y + 6x + y$

$18x + 4y$

9 $-4a^3 + 1 + a^3 + 7a^2$

$-3a^3 + 7a^2 + 1$

10 $-2 + 35b - 8b - 2b$

$25b - 2$

11 $-2b + 3ab + a + 9ab$

$12ab + a - 2b$

12 $-x^3 + 2x + 2x^3 - x + x^2$

$x^3 + x^2 + x$

Math Antics

Worksheets

Name:

Date:

Simplifying Longer Polynomials

AB-SP 4

Instructions: Simplify each polynomial below by combining 'like' terms. Do your best to arrange the terms of the simplified polynomial in order from highest to lowest degree.

1 $5x + 7 - 3x^3 + 5 - x^3$

$-4x^3 + 5x + 12$

2 $8x^2 + 20 - 2x^2 - 4$

$6x^2 + 16$

3 $15 + 3y - y + 5y - 1$

$7y + 14$

4 $-5x + 4y + 7y - 8 + 2x$

$-3x + 11y - 8$

5 $x + 2x^4 + 9x - 10x^4$

$-8x^4 + 10x$

6 $-3a - 2ab - a + 2abc$

$2abc - 2ab - 4a$

7 $24 + b^2 - y + 7b^2 + 2y + 4$

$8b^2 + y + 28$

8 $3xy + 6 + 4x^5 - 5xy + 9$

$4x^5 - 2xy + 15$

9 $x^2 + x^3 - x^4 + x - x^3 + x^4$

$x^2 + x$

10 $-2x^3 + 8x^3 + 9x^3 - x^3$

$14x^3$

11 $6a^3 - b^2 - 2a^3 + 2c - 2b^2$

$4a^3 - 3b^2 + 2c$

12 $x^2y + 4xy + 5yx + 2y^2x$

$x^2y + 2xy^2 + 9xy$

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Simplifying Realy Long Polynomials (optional)

Instructions: Simplify each polynomial below by combining 'like' terms. Do your best to arrange the terms of the simplified polynomial in order from highest to lowest degree.

1 $x^2 + 5y - 5 + 8x^3 + 4 + 7y - 4x^2 + 10 - 4x^2$

$$8x^3 - 7x^2 + 12y + 9$$

2 $8x - 7x^3 + 14 + 7x - x^2 - 6 - x^3 + 4x^2$

$$-8x^3 + 3x^2 + 15x + 8$$

3 $10c + b + 7a - 5c - a + 5b + 4b + 8a - 6c$

$$14a + 10b - c$$

4 $28 + x^2 + 7y^2 - 2xy + 3x^2 + 4 + 10xy - 6y^2$

$$4x^2 + y^2 + 8xy + 32$$

5 $a + a^2 + 4a^2 - 5a - a^2 + 9a + 8a^2 - a$

$$12a^2 + 4a$$

6 $20 + 12x^2 - 5 - 10x + 4x^2 + 8x^3 + x - 7x^3$

$$x^3 + 16x^2 - 9x + 15$$

Name: _____

Date: _____

Simplifying Polynomials

1 Are these "like" terms?

x^2 and x $5x$ and $-3x$

☐ **Yes**   ☒ **Yes**

☒ **No**   ☐ **No**

2 Are these "like" terms?

$2y$ and $2x$ $3xy$ and $4yx$

☐ **Yes**   ☒ **Yes**

☒ **No**   ☐ **No**

3 Simplify.

$$4x^2 + 7 + 2x^2 + 3$$

$$6x^2 + 10$$

4 Simplify.

$$12x^2 - 7 - 10x^2 + 4$$

$$2x^2 - 3$$

5 Simplify.

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

$$x^2 + x$$

6 Simplify.

$$-x^4 - x^4 + 7x + 5x - x + 3$$

$$-2x^4 + 11x + 3$$

7 Simplify.

$$2x^3 + 5x^2 + 10x^2 + 20 + x^3$$

$$3x^3 + 15x^2 + 20$$

8 Simplify.

$$x^3 - 5x^2 - 10x^3 + 8x + 9x^2$$

$$-9x^3 + 4x^2 + 8x$$

9 Simplify.

$$xy + 3x + 8y - x + 5 - 2y$$

$$xy + 2x + 6y + 5$$

10 Simplify. (Careful! This one is tricky.)

$$6yx + 3x^2y - 4y^2x + 2xy$$

$$3x^2y - 4xy^2 + 8xy$$

See Video for step-by-step solutions to each problem.