

8.1 Common Factors - Worksheet 1

1 Identify the greatest common factor of $6x + 9$, then factor it out of the polynomial. Draw the grid and write the corresponding equation.

2 Identify the greatest common factor of $4y - 10$, then factor it out of the polynomial. Draw the grid and write the corresponding equation.

3 Identify the greatest common factor of $3a^2b + 9ab - 15b$, then factor it out of the polynomial. Draw the grid and write the corresponding equation.

4 Identify the greatest common factor of $8n + 4$, then factor it out of the polynomial. Write the corresponding equation, but do not draw a grid.

In the long run, you will want to be able to factor out terms mentally and go straight to the final result.

8.2 Common Factors - Worksheet 2

1 Identify the greatest common factor of $4x^5 - 10x^2 + 12x$, then factor it out of the polynomial. Draw the grid and write the corresponding equation.

2 Identify the greatest common factor of $12p^2 - 18p$, then factor it out of the polynomial. Write the corresponding equation, but do not draw a grid.

3 Identify the greatest common factor of $3y^3 + 15y^2 - 6y$, then factor it out of the polynomial. Write the corresponding equation, but do not draw a grid.

4 Identify the greatest common factor of $x(x-4) + 3(x-4)$, then factor it out of the polynomial. Draw the grid and write the corresponding equation.

Remember that the $(x - 4)$ can be viewed as a single object for factoring.

8.3 Common Factors - Worksheet 3

1 Identify the greatest common factor of $x(3y - 2) - 5(3y - 2)$, then factor it out of the polynomial. Write the corresponding equation, but do not draw a grid.

2 Factor $x^3 + 4x^2 + 3x + 12$ by grouping. Draw the grids and use a complete presentation.

3 Factor $x^2 - 6x - 3x + 18$ by grouping. Draw the grids and use a complete presentation.

8.4 Common Factors - Worksheet 4

1 Factor $2x^2 - 3x - 6x + 9$ by grouping. Draw the grids and use a complete presentation.

2 Factor $3xy + 6x - 2y - 4$ by grouping. Draw the grids and use a complete presentation.

3 Factor $x^3 - 3x^2 + 4x - 12$ by grouping. Use a complete presentation, but do not draw the grids.

This is the end goal for your presentations using factoring by grouping.

8.5 Common Factors - Worksheet 5

1 Factor $x^2 - 4x - 4x + 16$ by grouping. Use a complete presentation, but do not draw the grids.

2 Factor $2x^2 + 5x - 4x - 10$ by grouping. Use a complete presentation, but do not draw the grids.

3 Factor $x^2 - 3x + 5x - 15$ by grouping. Then factor $x^2 + 5x - 3x - 15$ by grouping. Use a complete presentation for both, but do not draw the grids. Was one easier than the other? Explain your perspective.

Both factorizations are the same! This is yet another example of there being multiple pathways to the same conclusion in mathematics.

Some students find one grouping easier than the other. You can decide for yourself whether this is true for you.