

**Lesson 4:** Factorising simple expressions.

**Aim:** Finding HCF and LCM for algebraic expressions and using this to factorise expressions. Using Venn Diagrams, students will be able to factorise simple expressions.

**Prior knowledge:** Product of Prime Numbers.

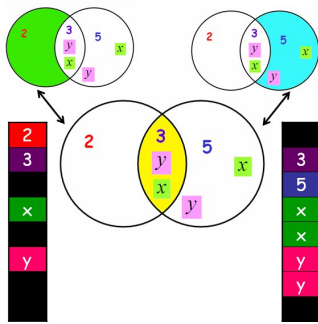
**Resources:**

- HCF and factorising PowerPoint
- HCF and LCM Algebraic Expressions worksheet

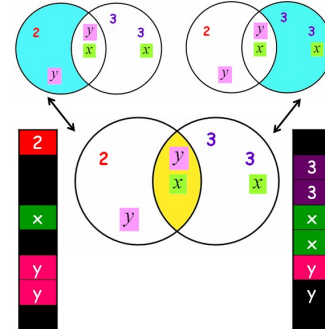
**Teacher-led session (10 - 15 minutes)**

Use the examples on the first two slides to factorise expressions

$[6xy, 15x^2y^2]$



$[2xy^2, 9x^2y]$



Use the third slide for two quick questions – you may like to use **mini-whiteboards** so that all students are encouraged to think about the problem.

Answer:  $3x(x + 5y)$  and  $4x^2y(y + 5x)$

**Worksheet (20 - 25 minutes)**

Students work through the worksheet

**Millionaire game (10 - 15 minutes)**

This can either be a starter activity or a plenary. Students work in pairs or teams. All students start with £1. They double their money for every correct consecutive question answered. If they are wrong, students lose all their money and go back to £1.

1	$4xy^2 + 12x$	$4x(y^2 + 3)$
2	$4x^3y^2 + 10x^2$	$2x^2(2xy^2 + 5)$
3	$xy + 11x$	$x(y + 11)$
4	$xyz + x^2$	$x(yz + x)$
5	$5x + 10y$	$5(x + 2y)$
6	$5x^2y^3 + 10y^2$	$5y^2(x^2y + 2)$
7	$8x^2 + 14y^2x$	$2x(4x + 7y^2)$
8	$2x + 14xy$	$2x(1 + 7y)$
9	$2x + 4x^2y$	$2x(1 + 2xy)$
10	$3xy + 4xy^2$	$xy(3 + 4y)$