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| **Literacy**Index, power, exponent, product, expand, factor, quadratic | **Research**The binomial expansion can be used to expand brackets quickly. Find the binomial expansion and attempt to use it to expand (x + y)4 | **Memory**$$x^{a}×x^{b}=x^{a+b}$$$$x^{a}÷x^{b}=x^{a-b}$$$$(x^{a})^{b}=x^{ab}$$Difference of two squares:$$\left(x-36\right)=(x+6)(x-6)$$There is only one bracket with a negative term which is a square number |
| **Skills**1. Simplify $\frac{18x^{6}y^{7}}{9x^{4}y^{3}}$
2. Simplify $4x^{3}y×5x^{4}y^{3}×2xy^{2}$
3. Simplify $10x^{3}y^{4}×2xy^{5}÷5x^{2}y^{7}$
4. Expand and simplify (x – 7)2
5. Expand and simplify (2x + 3y – 5)(8 – x)
6. Expand and simplify (x + 3)(x – 1)(x + 5)
7. Factorise 8x2y + 12xy
8. Factorise 6x2 + 2x
9. Factorise x2 + 10x + 21
10. Factorise 16x2 – 81y2
 | **Stretch**1. Given that (3x + 2y)(5x – y)(2x + y) = ax3 + bx2 y+ cxy2 + dy3, where a, b, c and d are constants, find the values of a, b, c and d
2. Expand and simplify (x + 3)5
3. Factorise completely

8x3 – 4x2 + 12x1. Factorise completely 6x3 – x2 – 2x
2. Write 4x4 – 17x2 + 4 as the product of four linear factors
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**Algebraic Manipulation Homework**