**FMPC10**

**FACTORING POLYNOMIALS**

**with a negative GCF**

* When factoring out a negative GCF, follow the same rules you would with a positive GCF but remember to reverse all the symbols for the terms that remain in the brackets.

**Examples: Factor a negative GCF**

|  |  |
| --- | --- |
| A | $$-3x^{2}+15$$ |
| B | $$-x^{2}y+xy$$ |
| C | $$-a^{2}bc^{2}-abc^{3}$$ |
| D | $$-3p^{2}+24p -9$$ |
| E | $$-42k^{5}+14k^{3} -49k^{2}$$ |
| F | $$-25x+32y-12z$$ |
| G | $$-12a^{2}+36a -9a^{4}$$ |

**FACTORING POLYNOMIALS**

**Difference of Squares**

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|  |

* Factoring (by) the difference of squares (DOS) works for binomials that are of a specific form: ***perfect square minus a perfect square***
* Sometimes, the binomial has to be rewritten so the terms are perfect squeares

|  |  |
| --- | --- |
| A | $$x^{2} – 9$$ |
| B | $$a^{2}- 121$$ |
| C | $$a^{2}c^{2}-b^{2}d^{2}$$ |
| D | $$4p^{2}-81$$ |
| E | $$m^{4} -49k^{2}$$ |
| F | $$x^{6}-400z^{2}$$ |
| G | $$1-9b^{4}$$ |
| H | $$-144+x^{2}$$ |
| I | $$36x^{2}-49y^{2}z^{2}$$ |
| J | $$64x^{8}-y^{2}$$ |
| K | $$-x^{2}-y^{2}$$ |
| L | $$289x^{2}m^{2}-100y^{2}$$ |
| M | $$169a^{6}-b^{4}$$ |