

Outcome 2 - Difference of 2 Squares

Bronze examples...

Examples...

- Two brackets
- '+' and a '-'
- Square root both terms

$$c^2 - d^2 = (c + d)(c - d)$$

$$x^2 - 16 = (x + 4)(x - 4)$$

$$y^2 - 64 = (y + 8)(y - 8)$$


Silver examples

Examples...

- Two brackets
- '+' and a '-'
- Square root both terms

$$9a^2 - 16b^2 = (3a + 4b)(3a - 4b)$$

$$25x^2 - 36y^2 = (5x + 6y)(5x - 6y)$$

$$49x^2 - 64y^2 = (7x + 8y)(7x - 8y)$$


Gold examples

Examples...

- Common Factor first!
- Then diff of 2 squares!

$$3x^2 - 48 = 3(x^2 - 16) = 3(x + 4)(x - 4)$$

$$2y^2 - 50 = 2(y^2 - 25) = 2(y + 5)(y - 5)$$


Bronze Questions

Factorise the following expressions...

- | | |
|---|---|
|  $r^2 - s^2$ |  $m^2 - n^2$ |
|  $x^2 - 36$ |  $c^2 - 49$ |
|  $z^2 - 4$ |  $w^2 - 100$ |
|  $a^2 - 9$ |  $p^2 - 144$ |
|  $b^2 - 25$ |  $r^2 - 10\,000$ |



Silver Questions

Factorise the following expressions...

- | | |
|--|---|
|  $4x^2 - 25y^2$ |  $64p^2 - 9q^2$ |
|  $121a^2 - 16b^2$ |  $16s^2 - 9t^2$ |
|  $49g^2 - 100h^2$ |  $36k^2 - 25n^2$ |
|  $9r^2 - 169y^2$ |  $q^2 - 900w^2$ |
|  $400z^2 - y^2$ |  $4i^2 - 625j^2$ |



Gold Questions

Factorise the following expressions...

- | | |
|---|---|
|  $2p^2 - 128$ |  $5w^2 - 245$ |
|  $7m^2 - 28$ |  $2c^2 - 162$ |
|  $3z^2 - 363$ |  $2w^2 - 200$ |
|  $2a^2 - 288$ |  $11p^2 - 176$ |
|  $2b^2 - 1800$ |  $7r^2 - 252$ |



Bronze Answers

- | | |
|---------------------|--------------------------|
| 1. $(r + s)(r - s)$ | 2. $(m + n)(m - n)$ |
| 3. $(x + 6)(x - 6)$ | 4. $(c + 7)(c - 7)$ |
| 5. $(z + 4)(z - 4)$ | 6. $(w + 10)(w - 10)$ |
| 7. $(a + 3)(a - 3)$ | 8. $(p + 12)(p - 12)$ |
| 9. $(b + 5)(b - 5)$ | 10. $(r + 100)(r - 100)$ |

Silver Answers

- | | |
|---------------------------|----------------------------|
| 1. $(2x + 5y)(2x - 5y)$ | 2. $(8p + 3q)(8p - 3q)$ |
| 3. $(11a + 4b)(11a - 4b)$ | 4. $(4s + 3t)(4s - 3t)$ |
| 5. $(7g + 10h)(7g - 10h)$ | 6. $(6k + 5n)(6k - 5n)$ |
| 7. $(3r + 13y)(3r - 13y)$ | 8. $(q + 30w)(q - 30w)$ |
| 9. $(20z + y)(20z - y)$ | 10. $(2i + 25j)(2i - 25j)$ |

Gold Answers

- | | |
|------------------------|------------------------|
| 1. $2(p + 8)(p - 8)$ | 2. $5(w + 7)(w - 7)$ |
| 3. $7(m + 2)(m - 2)$ | 4. $2(c + 9)(c - 9)$ |
| 5. $3(z + 11)(z - 11)$ | 6. $2(w + 10)(w - 10)$ |
| 7. $2(a + 12)(a - 12)$ | 8. $11(p + 4)(p - 4)$ |
| 9. $2(b + 30)(b - 30)$ | 10. $7(r + 6)(r - 6)$ |