

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...

- | | |
|---------------|--------------------|
| 1 $r^2 - s^2$ | 2 $m^2 - n^2$ |
| 3 $x^2 - 36$ | 4 $c^2 - 49$ |
| 5 $z^2 - 4$ | 6 $w^2 - 100$ |
| 7 $a^2 - 9$ | 8 $p^2 - 144$ |
| 9 $b^2 - 25$ | 10 $r^2 - 10\,000$ |

Silver Questions

Factorise the following expressions...

- | | |
|--------------------|--------------------|
| 1 $4x^2 - 25y^2$ | 2 $64p^2 - 9q^2$ |
| 3 $121a^2 - 16b^2$ | 4 $16s^2 - 9t^2$ |
| 5 $49g^2 - 100h^2$ | 6 $36k^2 - 25n^2$ |
| 7 $9r^2 - 169y^2$ | 8 $q^2 - 900w^2$ |
| 9 $400z^2 - y^2$ | 10 $4i^2 - 625j^2$ |

Gold Questions

Factorise the following expressions...

- | | |
|-----------------|-----------------|
| 1 $2p^2 - 128$ | 2 $5w^2 - 245$ |
| 3 $7m^2 - 28$ | 4 $2c^2 - 162$ |
| 5 $3z^2 - 363$ | 6 $2w^2 - 200$ |
| 7 $2a^2 - 288$ | 8 $11p^2 - 176$ |
| 9 $2b^2 - 1800$ | 10 $7r^2 - 252$ |

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. $7(r + 6)(r - 6)$