

Factorising into a Single Bracket

Core Worksheet

Worked Examples & Guided Practice

I Do (Teacher Model) Factorise fully $18c^5w^2 + 30cw^3$.

We Do (Guided Practice) Factorise fully $24x^4y^3 - 16x^2y^5$.

You Do (Independent Practice) Factorise fully $35a^3b^4 + 28a^2b^6$.

Challenge (Extension) Factorise fully $12p^3q^4r^2 - 18p^2q^5r + 24p^4q^2r^3$.

Practice Perfect Questions

Q1. Factorise fully $10a^3b^2 + 15ab^4$.

Q2. Factorise fully $21x^5y^2 - 14x^3y^4$.

Q3. Factorise fully $16p^4q^3 + 24p^2q^6$.

Q4. Factorise fully $36m^3n^2 - 27m^2n^4$.

Q5. Factorise fully $45x^6y^3 + 30x^4y^5$.

Q6. Factorise fully $8a^4b^3c^2 - 12a^3b^5c + 16a^2b^2c^4$.

Answers & Worked Solutions

Model Solutions

- **I Do:** Highest common factor of coefficients 18 and 30 is 6. For c , lowest power is c^1 . For w , lowest power is w^2 . HCF = $6cw^2$. Answer: $6cw^2(3c^4 + 5w)$
- **We Do:** HCF = $8x^2y^3$. Answer: $8x^2y^3(3x^2 - 2y^2)$
- **You Do:** HCF = $7a^2b^4$. Answer: $7a^2b^4(5a + 4b^2)$
- **Challenge:** HCF = $6p^2q^2r$. Answer: $6p^2q^2r(2pq^2r - 3q^3 + 4p^2r^2)$

Practice Perfect Questions Solutions

Q1. $5ab^2(2a^2 + 3b^2)$

Q2. $7x^3y^2(3x^2 - 2y^2)$

Q3. $8p^2q^3(2p^2 + 3q^3)$

Q4. $9m^2n^2(4m - 3n^2)$

Q5. $15x^4y^3(3x^2 + 2y^2)$

Q6. $4a^2b^2c(2a^2bc - 3ab^3 + 4c^3)$