

Factorising - The Common Factor - Revision
Remember :-

Factorise fully :-	1. $5x + 10$	2. $12a - 16b$	3. $pq + pr$	4. $12x - 18x^2$
Check answers by removing the brackets	$= 5(x + 2)$	$= 4(3a - 4b)$	$= p(q + r)$	$= 6x(2 - 3x)$
	5 is <i>h.c.f.</i> highest common factor	4 is <i>h.c.f.</i>	<i>p</i> is <i>h.c.f.</i>	6x is <i>h.c.f.</i>

Exercise 7.1

 1. **COPY and complete :-**

(a) $3a + 12b = 3(\dots\dots\dots)$

(b) $2x + 6y = 2(\dots\dots\dots)$

(c) $8g + 6h = 2(\dots\dots\dots)$

(d) $ab + ac = a(\dots\dots\dots)$

(e) $pq + p = p(\dots\dots\dots)$

(f) $kj + k^2 = k(\dots\dots\dots)$

(g) $fg^2 + g = g(\dots\dots\dots)$

(h) $3mn + 3mp = 3m(\dots\dots\dots)$

(i) $6x + 9y = 3(\dots\dots\dots)$

(j) $24b - 16a = 8(\dots\dots\dots)$

(k) $12cd - 8d = 4d(\dots\dots\dots)$

(l) $9p + 21p^2 = 3p(\dots\dots\dots)$

2. Factorise the following, by considering the highest common factor in each case :-

(a) $6a + 24$

(b) $2x + 12$

(c) $7p - 35$

(d) $11a + 11b$

(e) $7p - 7q$

(f) $4c - 16h$

(g) $8m - 24$

(h) $13n + 39$

(i) $4x + 10y$

(j) $6u - 21v$

(k) $30x - 55y$

(l) $6r - 42u$

(m) $12s + 30$

(n) $44u - 33$

(o) $27x - 45y$

(p) $72a + 24c$

(q) $121t - 11$

(r) $42k + 28$

(s) $17h - 51$

(t) $96z - 128$

3. Factorise fully :-

(a) $2b + bc$

(b) $8x - vx$

(c) $cd + cg$

(d) $a^2 + 3a$

(e) $5t - t^2$

(f) $2c^2 - 8c$

(g) $4kh + 4hg$

(h) $5vw - 10vx$

(i) $17rs - 17s$

(j) $3y^2 + 7y$

(k) $12x^2 - 16xy$

(l) $6q^2 + 9q$

(m) $4d + 14d^2$

(n) $52a - 13a^2$

(o) $3y^2 - 21cy$

(p) $18mn + 32n^2$

(q) $a^2 + 4a^2b$

(r) $ab^2 + 6ab$

(s) $abc^2 + 7abc$

(t) $a^2bc^2 + 7ab^2c$

4. Completely factorise :-

(a) $a^2 + 4ab - 7a$

(b) $2xy - 4xz + x$

(c) $p^3 + p^2$

(d) $4n^3 - 16n$

(e) $6a^2c + ac^2$

(f) $18rs^2 - 30rs$

(g) $8x^2 - 12ax$

(h) $\frac{1}{5}gh + \frac{1}{5}hj$

5. Factorise each of the following in simplest form :-

(a) $15a^2bc^2 + 12b^2c$

(b) $15cde^2 + 12b^2ce$

(c) $21k^2gh^2 + 24k^2g^2h - 15kgh$

(d) $21p^2ts^2 + 24pt^2s^2 - 15p^2s$