

Collecting Like Terms

1. Expand the brackets and simplify

- (a) $2(a + 4) - 6$ (b) $4(c + 2) + 5$ (c) $5(d - 1) + 2$ (d) $4(e + 3) - 15$
(e) $2(3 + g) - 4$ (f) $6(1 - 2h) + 5$ (g) $5(2 - m) - 12$ (h) $2(6 + n) + 2$
(i) $5(p + 2) + 3p$ (j) $4(q - 2) - 2q$ (k) $3(t + 5) - t$ (l) $4(s + 5) + 6s$
(m) $2(x + y) + 5y$ (n) $3(a - c) - 2a$ (o) $5(p - q) - 3q$ (p) $3(m - n) - 5m$
(q) $4(3a - 2) - 3a$ (r) $2(x - 2y) - 5y$ (s) $4(a - 3c) + 8c$ (t) $4(2a - 3c) - 5a$
(u) $5(2m - 3) - 1$ (v) $4(2g + 3h) - 4h$ (w) $3(p - 2q) + 6q$ (x) $5(a - 4d) - 5a$
(y) $2(c - 2d) - 5d$ (z) $6(2s - 3t) + 5t$

2. Expand the brackets and simplify

- (a) $5 + 2(p + 3)$ (b) $4 + 2(x - 2)$ (c) $2 + 3(p - 4)$ (d) $10 + 2(x - 4)$
(e) $2a + 3(a - 4)$ (f) $5c + 2(c + 2)$ (g) $3d + 4(d + 2)$ (h) $6g + 2(1 - 2g)$
(i) $5h + 2(1 - 3h)$ (j) $2k + 3(2 - 4k)$ (k) $3m + 2(m - n)$ (l) $5n + 2(n - 4p)$
(m) $3s + 2(2s + 3t)$ (n) $4u + 2(3v - 4u)$ (o) $5y + 2(2x - 3y)$ (p) $2a + 4(c + 3a)$
(q) $2 - 3(x + 2)$ (r) $2 - 2(4x - 3)$ (s) $4 - (2x - 3)$ (t) $5 - (2 - 3y)$
(u) $4a - 2(a - 3)$ (v) $5p - 3(1 - 2p)$ (w) $6c - (2d - 3c)$ (x) $2k - 3(3g - k)$
(y) $2n - (3p + 5n)$ (z) $4f - 2(3f - 2h)$

3. Expand the brackets and simplify

- (a) $2(x + 3) + 4(x + 3)$ (b) $5(a + 2) + 2(a - 3)$ (c) $3(p + 4) + 2(p - 4)$
(d) $5(n + 2) + 2(3 - 2n)$ (e) $4(c + 2) + 3(4 + 2c)$ (f) $2(x - 4) + 3(x - 4)$
(g) $3(2a + 4) + 2(3a - 1)$ (h) $5(2p - 2) + 3(3p + 5)$ (i) $4(2c - 3) + 3(4c - 1)$
(j) $2(p + 3q) + 4(p - 2q)$ (k) $2(2e - 3f) + 3(3e + 4f)$ (l) $5(2p - s) + 2(s - 2p)$
(m) $4(x - y) + 3(2x - 3y)$ (n) $5(2a - 2c) + 2(2a + c)$ (o) $2(u - 2v) + 3(2u - v)$
(p) $2(g - 3h) + 3(2g - 2h)$ (q) $3(2a + 3c) + 2(a + 5c)$ (r) $3(7p - 2q) + 2(p - 2q)$
(s) $4(x - 2) - 2(2x - 3)$ (t) $5(n - p) - 2(2p - n)$ (u) $4(x + 2y) - 3(2x - y)$
(v) $2(2q + 4r) - (3q - 2r)$ (w) $4(2c + 3d) - (4c - 2d)$ (x) $2(3p - 2q) - (4q - 2p)$
(y) $4(a - 4c) - 2(2c - 2a)$ (z) $6(2d + 3c) - 3(6c + d)$

4. Expand the brackets and simplify

(a) $2(x^2 - 3) - 4$

(b) $4(a^2 + 5) - 12$

(c) $2(c^3 - 3) - 10$

(d) $3(a^2 - 2a) - 5a$

(e) $2(d^2 - 3d) - 5d$

(f) $5(p^2 - 3p) + 6p$

(g) $2(d - 2d^2) + 7d$

(h) $6(p + 2p^2) - 4p$

(i) $2(n - 3n^3) - n$

(j) $4(x^2 - 3x) - 2x^2$

(k) $4(a^2 - 2a) - 2a^2$

(l) $5(y^2 + 4y) + 3y^2$

(m) $2(3s^2 - 2s) - 5s$

(n) $7(p - 2p^2) - 4p$

(o) $2(n^3 + 4n^2) - 3n^2$

(p) $3(x^3 - 3x) - 5x$

(q) $4(x^2 - 2) + 3(x^2 - 4)$

(r) $5(a^2 + 3a) + 2(2a^2 - a)$

(s) $5(p^2 - 2p) - 3(2p^2 - p)$

(t) $5(2x^2 + 3x) - (x^2 - 4x)$

(u) $2(3c^2 - c) - 3(4c^2 + 2c)$

(v) $2(5s^2 - 3s) - (2s^2 + 4s)$

(w) $3(3u^2 - 2u) - 2(u - 3u^2)$

(x) $4(x^2 - 3x) - 2(2x^2 - 5x)$

(y) $2(3y^2 - 5y) - 2(y - 2y^2)$

(z) $4(x^2 - y^2) - 3(x^2 - 2y^2)$