

Question 1: Expand the following brackets

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|------------------|-------------------|------------------|-----------------------|
| (a) $5(y + 3)$ | (b) $4(a + 2)$ | (c) $8(w + 10)$ | (d) $3(x - 7)$ |
| (e) $9(s - 1)$ | (f) $2(8 - t)$ | (g) $7(4 + h)$ | (h) $10(a + 2b + 3c)$ |
| (i) $4(3y + 2)$ | (j) $5(2p - 1)$ | (k) $3(7a + 2)$ | (l) $9(2x - 5)$ |
| (m) $5(4 + 3t)$ | (n) $7(9 - 2c)$ | (o) $8(3w + 1)$ | (p) $9(1 - 4p)$ |
| (q) $11(2k - 5)$ | (r) $20(6a + 5c)$ | (s) $3(15w - 7)$ | (t) $3(9 - 2a)$ |

Question 2: Expand the following brackets

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|-----------------|------------------|------------------|-------------------|
| (a) $-2(w + 5)$ | (b) $-3(c + 7)$ | (c) $-8(c + 7)$ | (d) $-10(y - 2)$ |
| (e) $-7(g - 3)$ | (f) $-4(2w + 3)$ | (g) $-9(3w - 5)$ | (h) $-9(5x - 1)$ |
| (i) $-5(6 - c)$ | (j) $-6(4 + 3m)$ | (k) $-2(1 + 9c)$ | (l) $-5(8a - 7w)$ |

Question 3: Expand the following brackets

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|------------------|------------------|------------------|-------------------|
| (a) $a(c + 2)$ | (b) $c(d - 3)$ | (c) $a(b + c)$ | (d) $w(8 - y)$ |
| (e) $c(5 + a)$ | (f) $w(a - 9)$ | (g) $y(s + t)$ | (h) $2a(c - 3)$ |
| (i) $5x(y + 8)$ | (j) $3a(2c + 9)$ | (k) $6g(2c - 1)$ | (l) $9k(2 + d)$ |
| (m) $5(2f + 9w)$ | (n) $3y(5p + 2)$ | (o) $2s(t + 1)$ | (p) $-4a(8x - 3)$ |

Question 4: Expand the following brackets

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|--------------------|----------------------|--------------------|---------------------|
| (a) $a(a + 2)$ | (b) $y(y - 5)$ | (c) $w(a + w)$ | (d) $c(9 - c)$ |
| (e) $p(2p + 5)$ | (f) $2w(3w - 1)$ | (g) $9y(2y + 3)$ | (h) $4c(2a + 5c)$ |
| (i) $2u(3 - u)$ | (j) $m(m^2 + 3)$ | (k) $y(y^2 - 6)$ | (l) $g^2(g - 8)$ |
| (m) $2p(p^2 + 9)$ | (n) $2a(2a^2 - 3)$ | (o) $5c(2c^2 - a)$ | (p) $8w(3w^2 + 3y)$ |
| (q) $x^2(x^2 + 4)$ | (r) $3w^2(7 + 2w^2)$ | | |

Question 5: Expand and simplify

(a) $5(y + 3) + 2(y + 7)$

(b) $6(2w + 5) + 9(w + 2)$

(c) $3(y - 2) + 4(2y + 5)$

(d) $7(2g + 3) - 5(g + 2)$

(e) $6(x - 2) - 4(x - 8)$

(f) $2(3y - 8) - 5(2y - 1)$

(g) $8(5 + 2m) + 3(5 - 3m)$

(h) $4(w + 7) - 2(2w + 1)$

(i) $9(1 + 2y) + 3(3 - y)$

Question 6: Expand and simplify

(a) $w(w + 5) + w(w + 7)$

(b) $2g(4g + 3) + g(g - 7)$

(c) $n(n - 4) - n(5 - n)$

(d) $2e(4e + 3) - 3e(e - 5)$

(e) $a(3 + c) + c(a + 2)$

(f) $m(a + 7) - a(4 - 3m)$

(g) $8c(8 - 3a) + 3(4 - c)$

(h) $5y(3y + z) - 2y(4y - 3z)$

(i) $4c(3c - c^2) - 2c^2(4 - 5c)$

Question 7: Expand the double brackets below and simplify

(a) $(3x + 2)(4x + 3)$

(b) $(4x + 3)(5x - 1)$

(c) $(8x + y)(3x + 2y)$

(d) $7(3x + 2)(4x + 7)$

(e) $8(2x + 1)(3x - 9)$

Question 8: Below is a cuboid. All calculations are to be carried out in terms of k .

(a) Find the total length of the edges.

(b) Find the surface area of the cuboid.

(c) Find the volume of the cuboid.

