

Workout

Question 1: Expand and simplify

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

Question 2: Expand and simplify

- (a) $(8 + x)(2 + x)$ (b) $(9 + y)(4 - y)$ (c) $(1 + y)(3 + y)$ (d) $(10 - t)(4 - t)$
(e) $(4 - w)(w + 2)$ (f) $(6 - x)(x - 4)$ (g) $(2 - r)(8 - r)$ (h) $(x + 2)(8 - x)$

Question 3: Expand and simplify

- (a) $(y + 2)(y - 2)$ (b) $(w + 7)(w - 7)$ (c) $(a + 1)(a - 1)$ (d) $(x - 10)(x + 10)$
(e) $(g - 8)(g + 8)$ (f) $(6 - x)(6 + x)$ (g) $(4 - r)(4 + r)$ (h) $(11 + y)(11 - y)$

Question 4: Expand and simplify

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

Question 5: Expand and simplify

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|------------------|------------------|------------------|------------------|
| (a) $(a + 2)^2$ | (b) $(x + 7)^2$ | (c) $(z - 9)^2$ | (d) $(p + 1)^2$ |
| (e) $(c - 5)^2$ | (f) $(k + 4)^2$ | (g) $(y - 3)^2$ | (h) $(10 + r)^2$ |
| (i) $(3g + 2)^2$ | (j) $(2b - 1)^2$ | (k) $(3m - 5)^2$ | (l) $(2v + 9)^2$ |
| (m) $(7 - a)^2$ | (n) $(4 - 3s)^2$ | (o) $(8 + 5h)^2$ | (p) $(7 - 2p)^2$ |

Question 6: Expand and simplify

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|--|--|
| (a) $(a + 2)(a + 3) + (a + 4)(a + 1)$ | (b) $(2w + 3)(w - 1) + (w - 3)(w - 2)$ |
| (c) $(x + 9)(3x + 4) - (x + 3)(x - 1)$ | (d) $2(x + 1)(x + 4) - (x + 1)(x + 2)$ |
| (e) $(x + 4)^2 + (x + 1)^2$ | (f) $(2x + 1)^2 - (x - 5)^2$ |

Apply

Question 1: Can you spot any mistakes in the questions below.

Expand and simplify $(5y - 1)(y - 2)$

$$5y^2 - 10y - y - 2$$

$$5y^2 - 11y - 2$$

Expand and simplify $(x - 7)^2$

$$x^2 - 49$$

Expand and simplify $(3y - 5)(y + 4) - (y - 3)(y - 5)$

$$3y^2 + 12y - 5y - 20 - y^2 - 5y - 3y + 15$$

$$3y^2 + 7y - 20 - y^2 - 8y + 15$$

$$2y^2 - y - 5$$