

Expanding

42 Expand and simplify the following expressions:

(a) $(x - 8)(x + 8)$

(b) $(f + g)(f - g)$

(c) $(3u - 4v)(3u + 4v)$

43 Are the following true or false?

(a) $(x + 3)^2 = x^2 + 6x + 6$

(b) $(8 - d)^2 = 64 - 16d + d^2$

(c) $(p + q)^2 = p^2 + 2pq + p^2$

44 Expand and simplify the following expressions:

(a) $(5x - 2)^2$

(b) $(3 + 4d)^2$

(c) $(7 - 3e)^2$

48 Expand the following expressions.

- (a) $2(y - 3)$
- (b) $-(g - 11)$
- (c) $-4(6x + 9)$
- (d) $-6(-8 - 3x)$

49 Expand the following expressions.

- (a) $m(9 + m)$
- (b) $b(7 - b)$
- (c) $-y(6y - 3)$
- (d) $-5x(7 - 2x)$

50 Expand and simplify by collecting like terms.

(a) $3(q - 4) + 10$

(b) $-6y(y + 1) - 4y$

(c) $2q + 5 - 3p(5q - 3)$

51 If the equivalent of

$2(x - 4y) + \nabla(x + 4y) = 5x + 4y$, then the missing number ∇ is:

- A 1
 - B 2
 - C 3
 - D 4
 - E 5
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45 Expand and simplify the following expressions:

(a) $(x + 2)(x + 4) + (x + 1)(x + 3)$

(b) $(p - 5)(p + 6) + (p - 1)(p + 1)$

(c) $(q - 3)(q - 7) + (q + 2)(q + 9)$

46 Expand and simplify the following expressions:

(a) $(x + 3)^2 + (x - 6)(x - 2)$

(b) $(y - 2)^2 + (y + 1)(y - 5)$

(c) $(z + 6)(z - 3) - (z - 1)^2$

47 What is the equivalent of $(p + 3)^2 - (p - 3)^2$?

A $p^2 - 9$

B $p^2 + 6p + 9$

C $2p^2 + 12p + 18$

D $12p$

E 0

52 Expand and simplify the following expressions.

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

(b) $4(c - 4d) - 6(3c - 5d)$

(c) $-3(2a + b) - (3a + 2b)$

53 Expand and simplify the following expressions.

(a) $x(y + 3) + x(y - 2)$

(b) $2p(3p + 4) - 3(4p - 4)$

(c) $-6c(3c - 7d) + d(4d - 8c)$

54 Are the following true or false?

(a) $(x + 1)(x - 6) = x^2 - 6x + 6$

(b) $(y - 2)(y - 3) = y^2 - 5y + 6$

(c) $(8 - z)(3 + z) = 11 - 8z - z^2$

Factorising

65 Factorise $6x + 9y - 27z$.

66 Factorise $24pq - 4q^2$.

67 Factorise $-25x(a - 3n) - 15xy(a - 3n)$.

68 Factorise $8x^2 - 12xy - 2px + 3py$.

69 Factorise $x^2 - 49$.

70 Factorise $(x + 1)^2 - y^2$.

71 (a) Factorise $4a^2 - 9b^2$

(b) Factorise $36x^2 - 25y^2$

74 (a) Factorise $7x + 21xy$.

(b) Factorise $56xy - 24xz$.

75 Factorise $-6x^2 - 3xy$.

76 Factorise $3c^2d^3 + 9c^3d^2 - 12cd^2$.

77 Factorise $3(x + y) - a(x + y)$.

78 Factorise $6x(b - c) + x^2(b - c)$.

79 Factorise $8x(p - 2q) + 4x(p + 2q)$.

80 Factorise $ax + 2x + 2ay + 4y$.

81 Factorise $7a^2 - 14ab + 20ax - 40bx$.
