

Expanding single brackets

Remove the brackets by multiplying:

- a) $3(x + 2)$
- b) $5(4 - x)$
- c) $-2(3x - 5)$
- d) $x(x - 4)$

Linear equations one unknownSolve for x :

- a) $17 - x = 9$ e) $2x + 5 = 1 + x$
- b) $4x = 24$ f) $5x + 2 = 16 - x$
- c) $3x + 7 = 22$ g) $18 - 7x = 31 - 9x$
- d) $19 - 2x = 26$

Simultaneous equationsFind values for x and y that satisfy:

- a) $x + y = 21$
 $x - y = 9$
- b) $2x + y = 14$
 $x - y = -5$
- c) $4x + 3y = 23$
 $3x - 2y = -4$

SubstitutionLet $a = 4$, $b = -1$, $c = 5$, $d = -2$

Evaluate:

- a) $a + b + c$ d) $ad - bc$
- b) $d - 3b$ e) $\frac{abc}{d}$
- c) b^2

Product of binomials

Expand and simplify:

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

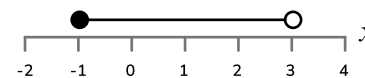
Simplifying expressions

Simplify:

- a) $x + x + x + x$
- b) $5y - 8y + 4y$
- c) $2a \times 3b \times 4c$
- d) $28xy \div 4y$
- e) $4a + 3b - 5a$

Inequalities

a) Write the inequality that is described by the number line:



b) Find the set of integers satisfying the inequality:

$$-3 \leq n < 2$$

c) Solve the inequality:

$$3x - 4 > 11$$

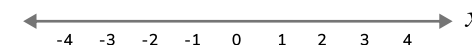
d) Solve the inequality:

$$1 < 2x - 5 < 11$$

e) Solve the inequality:

$$2x + 7 > 5$$

Now represent your solution on the number line:

**Changing the subject**

- a) Given $v = u + at$ make a the subject
- b) Given $E = mgh$ make h the subject.
- c) Given $P = I^2 R$ make I the subject.

Factorising quadratics

Factorise as a product of binomials:

- a) $x^2 - 4x - 5$
- b) $x^2 - 7x + 12$
- c) $x^2 - 25$

Solving quadratic equationsSolve for x :

- a) $x^2 - 8x + 7 = 0$
- b) $x^2 + x - 6 = 0$

Factorising

Fully factorise:

- a) $4x + 20$ c) $24 - 14y$
- b) $6x - 9$ d) $4ab + 6ac$