

KS3 – Equations

Section A – One-Step Equations

Q1 (4 marks)

Solve each equation.

a) $x + 7 = 15$

b) $y + 12 = 20$

c) $a - 5 = 9$

d) $p - 11 = 6$

Q2 (4 marks)

Solve each equation.

a) $4x = 28$

b) $6y = 42$

c) $9a = 63$

d) $12p = 96$

Q3 (4 marks)

Solve each equation.

a) $x \div 5 = 7$

b) $y \div 4 = 9$

c) $a \div 6 = 8$

d) $p \div 3 = 11$

Q4 (3 marks)

Solve each equation.

a) $x - 8 = -3$

b) $y + 6 = -4$

c) $-5a = 30$

Challenge

Q5 (2 marks)

A number, n , is multiplied by 7 to give 91.

Form an equation and solve it to find n .

Section B – Two-Step Equations

Q6 (3 marks)

Solve each equation.

a) $2x + 5 = 17$

b) $3y + 4 = 25$

c) $5a + 2 = 37$

Q7 (3 marks)

Solve each equation.

a) $4x - 3 = 21$

b) $6y - 5 = 31$

c) $7a - 8 = 27$

Q8 (3 marks)

Solve each equation.

a) $x \div 3 + 4 = 9$

b) $y \div 5 - 2 = 4$

c) $a \div 4 + 7 = 10$

Q9 (3 marks)

Solve each equation.

a) $5 - 2x = -9$

b) $8 - 3y = -7$

c) $4 - 5a = 19$

Q10 (3 marks)

Solve each equation.

a) $3x + 7 = -5$

b) $4y - 6 = -22$

c) $-2a + 5 = 17$

Challenge

Q11 (3 marks)

A rectangle has width x cm and length $(x + 5)$ cm. Its perimeter is 34 cm.

Form an equation and solve it to find x .

Section C – Multi-Step Equations

Q12 (3 marks)

Solve each equation.

a) $3x + 5 = x + 17$

b) $5y - 4 = 2y + 14$

c) $7a + 3 = 4a + 24$

Q13 (3 marks)

Solve each equation.

a) $4x + 9 = 6x - 5$

b) $8y - 7 = 3y + 18$

c) $2a + 15 = 5a - 6$

Q14 (3 marks)

Expand the bracket and solve.

a) $3(x + 2) = 18$

b) $4(y - 3) = 20$

c) $5(a + 1) = 2a + 17$

Q15 (3 marks)

Expand, simplify and solve.

a) $2(x + 4) + 3x = 23$

b) $3(y - 2) + 2y = 19$

c) $4(a + 1) - a = 19$

Q16 (3 marks)

Solve each equation.

a) $4x + 7 = 2x - 9$

b) $3y - 5 = 7y + 11$

c) $6a + 2 = 2a - 18$

Challenge

Q17 (4 marks)

The sum of three consecutive integers is 72.

Form an equation and find the three integers.

Q18 (4 marks)

A rectangle has length $(2x + 3)$ cm and width $(x - 1)$ cm. Its perimeter is 40 cm.
Form an equation and solve it to find x .

Total: ____ / 58

Percentage: ____%