

10.4 Simple Equations

1. Solve each of the following equations:

(a) $x + 5 = 8$

(b) $x - 5 = 4$

(c) $x + 5 = 10$

(d) $x - 5 = 9$

(e) $6 + x = 7$

(f) $3x = 6$

(g) $6x = 42$

(h) $7x = 14$

(i) $12x = 24$

(j) $\frac{x}{2} = 6$

(k) $\frac{x}{5} = 5$

(l) $\frac{x}{2} - 1 = 4$

2. Solve each of these equations:

(a) $x + 4 = 2$

(b) $5 + x = 3$

(c) $x - 3 = -7$

(d) $3x = -12$

(e) $5x = -20$

(f) $2x + 1 = -3$

(g) $3x - 1 = 14$

(h) $5x + 2 = -8$

(i) $2x - 4 = 8$

(j) $4x - 7 = -9$

(k) $9 - 2x = 8$

(l) $3x + 7 = -10$

3. One number is greater than another by 4, and their sum is 32. Find the two numbers.

4. When a number is doubled and 5 is taken from the result, the answer is 37. What is the number?

5. The sum of two numbers is 120. If the larger number is four times the smaller number, what are the two numbers?

6. Andrew is 5 years older than Tim. If Tim is aged 21, then write down an equation or x , the age of Andrew. Solve this equation for x .

7. Morag thought of a number. She doubled this number and added 10 to give the result 52. What number did Morag think of?

8. The sum of three *consecutive* numbers is 120. If x is the smallest of the three numbers, write down the equation that x satisfies. Hence, solve for x .

9. When 42 is added to twice a number, the result is 346. Find the number.

10. A man was 26 years old when his son was born. Now, he is three times as old as his son. How old is the son now?

11. (a) Simplify $5p + 3p + 4p$
(b) Solve the following equations

(i) $15 - x = 9$

(ii) $6y = 48$

- (c) For the formula

$$r = 5q - 4,$$

find the value of r when $q = 20$.

(OCR)

12. The length of each side of an equilateral triangle is $(x + 5)$ centimetres.

- (a) Find an expression, in terms of x , for the perimeter of the equilateral triangle.

Give your expression in its simplest form.

The perimeter of the equilateral triangle is 22.5 cm

- (b) Work out the value of x .

(Edexcel)