

Equations with two unknowns



Find the value of a in the following equations if b is 5:

$a - 23 = b$

$a =$

$5a - 15 = b$

$a =$

$3a + b = 20$

$a =$

Find the value of c in the following equations if a is 8:

$2c - a = 80$

$c =$

$10a = 60 + c$

$c =$

$c \div 2 = 2a + 20$

$c =$

Find the value of b in the following equations if c is 12:

$6b \div 5 = c$

$b =$

$b \div 2 = 5c$

$b =$

$6 + 3b = 8c$

$b =$

Solve the following word problems with the help of algebra:

1. The average temperature in July is normally 12 degrees warmer than that of December.

Write an equation that shows this. Use the letter j to represent July and d to represent December.

Use the equation to work out what the average temperature in July would be if the average temperature in December was:

A) 3°C

B) 7°C

C) 12°C

D) -1°C

2. The area of a rectangle is 60 cm^2 .

Write an equation that shows this. Use the letter l to represent the length of the rectangle, and the letter w to represent the width.

Work out what the length would be if the width was:

A) 5 cm

B) 6 cm

C) 2 cm

D) 4 cm

3. Thomas and Nicholas are twins. They have a younger sister called Mia. The combined age of the three children is 25 years.

Write an equation to show this. Use the letter a to represent the age of each of the twins and the letter b to represent Mia's age.

Which solution to the equation is not possible? (Remember that Mia is younger than the twins)

A) $a = 10$

B) $a = 8$

C) $a = 9$