

Review An Introduction to Algebra: Answer Key by Manshan

The Unknown

- in arithmetic, the unknown is the answer that comes after the equal sign
- in algebra, the unknown is the answer to any of the symbols in the equation
- in algebra, there can be more than one unknown in an equation
- in arithmetic, the unknown is often shown with a line
- in algebra, the unknown is shown with a symbol
- in algebra, the most common symbol for the unknown is x

Equations

- an equation is a mathematical statement that shows that the two sides are equal
- both sides always have the same value
- solving equations means figuring out the value of the unknown
- in arithmetic, the unknown is always by itself on one side of the equal sign
- in algebra, the symbols can be in more than one place and are part of more mixed-up and complicated equation

Rules

- in algebra, the unknown is shown by a symbol
- the same symbol or letter can stand for different numbers in different problems or equation
- but the same symbol or letter must stand for the same number within a single problem or equation
- more than one symbol or letter can be used within one equation
- the same symbol can be represented by different symbols or letters
- a variable is a symbol that has a variable that can change (or vary)

Operations

- $a \div b$ can also be written as $\frac{a}{b}$ or a/b
- a times b can be written as ab because in algebra you don't need a symbol for multiplication
- in algebra, multiplying is implied which means you do it without a direct written instruction

Practise

- 2×4 can be written as $(2)4$ or $(2)(4)$ or $2(4)$. It still equals 8.
- $(2 + 3)(4-2) = 10$
- $(8-2)(1+2) = 18$
- $12/4 + 6/2 = 6$
- $6 + (2-1) = 3$