



Skills

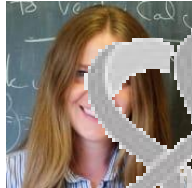
- Find a rule – one step
- Find a rule – two step
- Forming expressions
- Substitution
- Formulae
- Forming equations
- Solve simple one-step equations
- Solve two-step equations
- Find pairs of values
- Enumerate possibilities

Vocabulary

Term, unknown, variable, expression, equation, formula, one-step equation, two-step equation, substitution pairs, enumerate, linear, sequence, possibilities

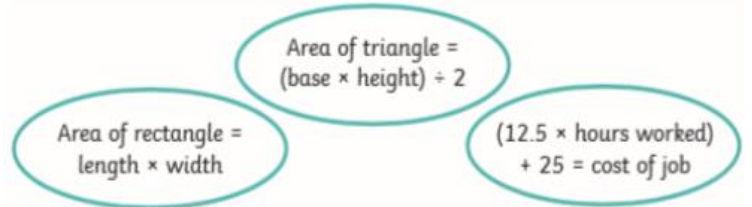
Inspirational Mathematician Caroline Klivans (1981-present)

Caroline Klivans is an American mathematician specialising in algebra. Studying at Cornell University, Klivans was the 1999 winner of the Alice T. Schafer Prize of the Association for Women in Mathematics for excellence in mathematics, for an undergraduate research project involving robot navigation algorithms.



Formulae

A formula is a special type of equation that shows the relationship between different substituted variables. Formulas are often used to find area and volume.



An expression is a group of numbers, letters and operation symbols.

Forming Expressions

- Add 14 to a = $a + 14$
- Subtract 20 from b = $b - 20$
- Multiply c by 4 = $4c$
- 2 more than d = $d + 12$
- Multiply e by 5 and subtract 5 = $3e - 5$

Forming Equations

An equation is a number statement with an equals sign.

- $a + 14 = 20$
- $b - 20 = 15$
- $4c = 28$
- $d + 12 = 30$
- $3e - 5 = 10$

Equations with Pairs of Unknowns

When solving an equation with two unknown numbers, there may be several possible values for the unknowns that will balance the equation.

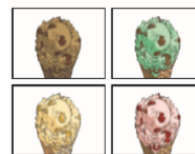
$2a + b = 10$

a	b
2	6
3	4
4	2
5	0

Enumerating Possibilities

Enumerating means making a complete list of answers to a problem which means finding all the possibilities.

There are four ice cream flavours.

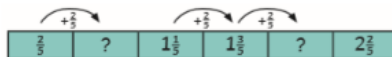
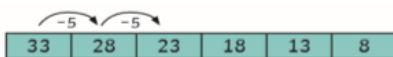


Two scoops of two different flavours give six possible combinations.

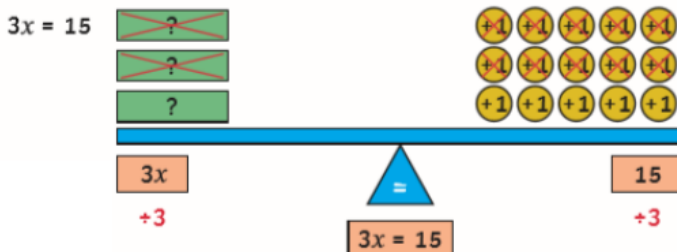
- chocolate and strawberry
- chocolate and vanilla
- chocolate and mint
- strawberry and vanilla
- strawberry and mint
- vanilla and mint

Linear Number Sequences

A linear number sequence is a sequence where each value increases or decreases by the same amount each time. Each number in a linear sequence is called a term.



Solving One-Step and Two-Step Equations



In algebra, missing numbers in equations are represented by letters. Any letter can be used but often the letter 'x' is used. The multiplication symbol is not used in algebra to avoid confusing it with the letter to show a missing number. If you see, for example, 3y this means 3 multiplied by y.