

Setting up and solving equations 2 – www.m4ths.com

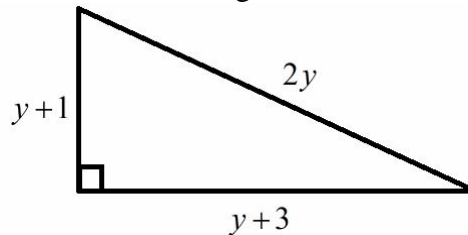
(1) Write down the difference between an equation and an expression.

(2) Simplify each expression in the boxes below.

$2x + x - 4$	$3p + 4p - p + 3 - 1$	$-h + 4 + 5h - 3$	$u - u + 2u - 1 + 6$

(3) Ahmed is x years old. Fred is four years younger than Ahmed and Wayne is 6 years older than Ahmed. Write an expression for (a) Fred's age and Wayne's age in terms of x . (b) The combined age of all 3 men.

(4) (a) Write an expression for the perimeter of the triangle below.



(b) Given that the perimeter of the triangle is 24cm, set up and solve an equation to find the value of y .

(c) Hence find the dimensions (lengths) of the triangle.

(d) Find the area of the triangle.

(5) Ying is n years old. Sunni is twice Ying's age and Martin is 3 years older than Ying. Given that their combined age is 43, set up and solve an equation to find the age of Ying, Sunni and Martin.

(6) Jill has $2w$ coins. Sam has twice as many coins as Jill and Freda has one less coin than Sam.

(a) Write an expression in terms of w for the number of coins Sam and Freda each have.

(b) Set up and solve an equation to find the value of w given that they have 79 coins in total between them.

(c) Find out how many coins Freda would have if she had 8 more coins than she already has.

(7) Peter has z marbles. Terry has $2z - 3$ marbles and Bettie has $4z + 1$ marbles. Given that Terry actually has 9 marbles, find out how many more marbles Bettie has than Peter.

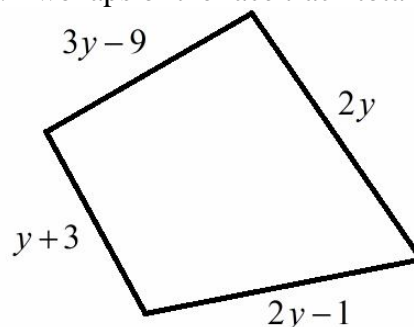
(8) (a) Write an algebraic expression for 'two more than 4 lots of p '.

(b) John is p years old. Henry is twice John's age and Wu is 2 years older than 4 times John's age.

(c) Write a simplified expression for the **combined age** of John, Henry and Wu.

(d) Given that their combined age is 51, set up and solve an equation to find the age of John, Henry and Wu.

(9) Below is a plan view of a race track. Two laps of the race track total 82 miles.



(a) Set up and solve an equation to find the value of y .

(b) State which two sides of the track are the same length.

(10) Fred has some pens. Jim has 5 more than Fred and Bob has 3 less than twice the amount Fred does. Given that the 3 boys have 102 pens in total, find out how many more pens Bob has than Jim.