

Velocity and force formulae

This task is about using substitution to solve equations with given values.

Wikitoria found some mathematical equations in a textbook. For each equation she knew the value of all but one of the variables.

For the following equations, work out the value of the missing variable.

- a) The first equation gives a formula for the velocity (v) of a car.

$$v = u + at$$

where $u = 20$
 $t = 4$
 $a = 9$



What is the value of v ? _____

- b) The next equation gives the force (F) on a ball that is being kicked.

$$F = \frac{m(v-u)}{t}$$

where $m = 5$
 $v = 45$
 $u = 15$
 $t = 3$



What is the value of F ? _____