

EQUATIONS

MTH 3 15-a

Having discussed ways to express problems or statements using mathematical language, I can construct, and use appropriate methods to solve, a range of simple equations.

Pupils should be able to:

- Find missing number mentally by counting forwards or backwards
e.g. $8 + \square = 12$
- Solve one-step equations using the "cover-up " method
e.g. $x + 5 = 12$, $14 - x = 9$
- Communicate clearly using correct notation
e.g. $x + 5 = 12$, so $x = 7$
- Solve two-step equations using the "cover up" method e.g. $2N + 3 = 8$
- Form equations from problems in words, solve them and interpret the solution
e.g. "I think of a number...."
- Understand the balance method of solving equations
- Use the balance method to solve equations in which the unknowns appear on both sides. e.g. $4x - 2 + 2x = 15$
- Check solutions by substitution

PUPILS SHOULD COMPLETE THE FOLLOWING EXERCISE AND ASSESS THEIR PROGRESS BY TICKING ONE OF THE OPTIONS FOR EACH TOPIC IN THE TABLE BELOW

	DEVELOPING	CONSOLIDATING	SECURE
Cover-up method (Questions 1 - 3)			
Balance method (Questions 4 - 5)			
Forming Equations (Question 6)			
Solving problems (Questions 7)			

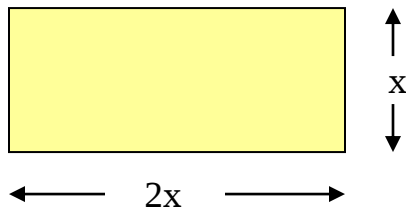
mymaths lessons: [library/algebra/equations-linear/simple equations](#)
[library/algebra/equations-linear/solving equations](#)

SELF EVALUATION EXERCISE

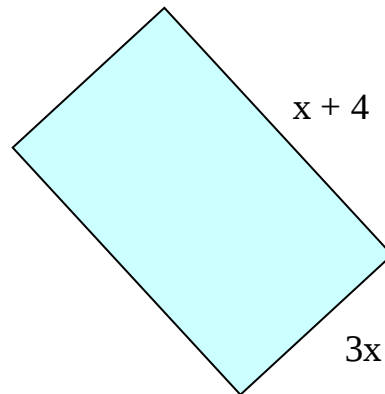
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1. Solve the following equations
a) $3y = 27$ b) $x - 12 = 13$ c) $105 - t = 80$ d) $4r = -12$
2. Solve the following equations
a) $4x + 5 = 13$ b) $34g - 17 = 51$ c) $261 - 10h = 211$ d) $24 \div 3x = 2$
3. Solve the following equations
a) $4f = 10$ b) $5n - 14 = 28$ c) $10 - 4c = 16$ d) $56 \div 2k = 16$
4. Solve the following equations
a) $3x - 4 = x + 2$ b) $5f - 15 = 3f + 7$ c) $23 - j = 3j + 7$ d) $21c - 18 = 3c + 54$
5. Solve the following equations
a) $6y + 13 = 3y - 17$ b) $8u - 3 = 6u - 27$ c) $4d - 24 = d + 10.5$
6. The perimeter of each of these shapes is 24cm. By expressing each perimeter algebraically (in the simplest form) form an equation for calculating the value of x in each case.

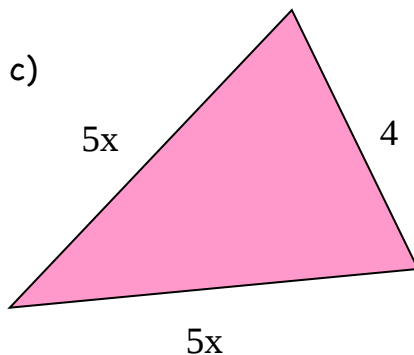
a)



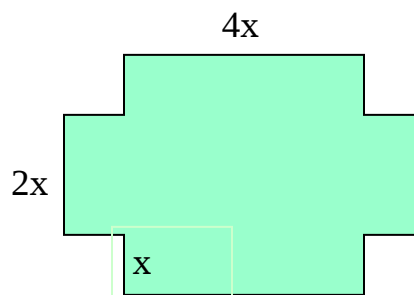
b)



c)



d)



7. Solve each of the equations formed in Q6 to find the value of x for each shape.