



ALL IN ONE PLACE BASE CAMP MATHS WORKSHEET ALGEBRA 1

INSTRUCTIONS

- You should take about 15 minutes to do the exercises
- Ask a family member or teacher for help if you need it
- Write your answers of the worksheet and show working out
- Use the solution sheet to check your work

WHAT TO DO

You'll practise your algebra skills by

JUMP 1 *group like terms and variables*

JUMP 2 *find the value of algebra expressions*

JUMP 3 *solving one-step equations*



JUMP 1

Simplify by group like terms and variables.

- $2x + 2y + x + y$
- $3x - a + 2a - 2x$
- $4y - 3xy - 3y - y + y + 6xy$
- $2c + 2b + 2bc$
- $a + b + 2a - 3b - 2a$
- $m + 2m + 3m + 6m + 8m$
- $2m - 3m + 6n - 8n + m - n$
- $xz + zx + 2xz$
- $u - 2u - 3u - 8u$
- $f + 2f + 2fg + 3gf - 3f - 5fg$



In each question, the letters or variables represent these numbers

$a = 3$

$b = 7$

$c = -1$

$d = -5$

Write the value of each expression in the table.

Expression	Value
$a + b$	
$b + c$	
$a + 2b + d$	
$2a - 2b - 2c$	
$3c - 4d - ab$	
$2ab + 4cd$	
$2(a + c) + 3(b + d)$	
$3(a - c) + 2(b - d)$	
$a^2 + d^2$	
$a^2 + d^2 - c^2$	
$2ad \div a$	
$(c - d) \div (b - a)$	

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"The vandalizing I get. But why algebra?!"



JUMP 3

Solve for the variable x in each one step equation.

Equation	Answer
$x + 6 = 10$	$x =$
$2x - 4 = 20$	$x =$
$12 - x = 7$	$x =$
$19 - 3x = 1$	$x =$
$2(x + 1) = 30$	$x =$
$x + 2x + 4x = 28$	$x =$
$2x - (x + 4) = 23$	$x =$
$4x + 16 = 48$	$x =$
$4x - 16 = 48$	$x =$
$2x \div 6 = 9$	$x =$
$2x - 19 = 3x + 11$	$x =$
$x \div x + x = 10$	$x =$

SOLUTIONS



JUMP 1

- $3x + 3y$
- $x + a$
- $y + 3xy$
- $2c + 2b + 2bc$ [cannot be simplified]
- $a - 2b$
- $20m$
- $-2n$
- $4xz$
- $-12u$
- 0



JUMP 2

Expression	Value
$a + b$	10
$b + c$	6
$a + 2b + d$	12
$2a - 2b - 2c$	2
$3c - 4d - ab$	- 32
$2ab + 4cd$	60
$2(a + c) + 3(b + d)$	10
$3(a - c) + 2(b - d)$	36
$a^2 + d^2$	34
$a^2 + d^2 - c^2$	33
$2ad \div a$	10
$(c - d) \div (b - a)$	1



JUMP 3

Equation	Answer
$x + 6 = 10$	$x = 4$
$2x - 4 = 20$	$x = 12$
$12 - x = 7$	$x = 5$
$19 - 3x = 1$	$x = 6$
$2(x + 1) = 30$	$x = 14$
$x + 2x + 4x = 28$	$x = 4$
$2x - (x + 4) = 23$	$x = 27$
$4x + 16 = 48$	$x = 8$
$4x - 16 = 48$	$x = 16$
$2x \div 6 = 9$	$x = 27$
$2x - 19 = 3x + 11$	$x = - 30$
$x \div x + x = 10$	$x = 9$