

Name: _____ Maths Group: _____ Tutor Set: _____

Homework Booklet

KS3 Levels 3-8

Unit 11 – Solving Equations

Remember to use the back of a page if you need more working out space.

Complete this table indicating the homework you have been set and when it is due by.

Date	Homework	Due By	Handed In

Please take care of the booklet as you will be required to make a donation to replace it if lost or damaged beyond use.

U11 – Solving Equations
Solving Simple Equations
No Calculator Allowed

1) Copy and complete the following equations,

a) $\square + 4 = 7$

b) $\square + 5 = 9$

c) $\square + 9 = 11$

d) $\square + 7 = 10$

e) $15 = \square + 12$

f) $\square + 18 = 23$

g) $\square + 21 = 30$

h) $32 = \square + 23$

i) $25 = 22 + \square$

j) $19 = 7 + \square$

k) $12 + \square = 19$

l) $11 + \square = 23$

m) $47 = 31 + \square$

n) $16 + \square = 30$

o) $22 + \square = 41$

p) $52 + \square = 70$

1. Solve the following equations by finding the number that ? is

a) $? + 3 = 8$

b) $? - 4 = 12$

? =

? =

c) $? + 2 = 0$

d) $? + 9 = 15$

? =

? =

e) $9 + ? = 20$

f) $? - 14 = 10$

? =

? =

U11 – Solving Equations
Solving One Step Equations
No Calculator Allowed

2. Now solve the following equations by finding the number that x is

a $x + 3 = 12$

$x = \dots\dots\dots$

b $x - 7 = 15$

$x = \dots\dots\dots$

c $19 - x = 12$

$x = \dots\dots\dots$

d $x - 1 = 1$

$x = \dots\dots\dots$

e $15 - x = 8$

$x = \dots\dots\dots$

f $7 + x = 16$

$x = \dots\dots\dots$

2) Solve the following equations,

a) $2x = 32$ $x = \underline{\quad}$ b) $5x = 40$ $x = \underline{\quad}$ c) $9d = 27$ $d = \underline{\quad}$

d) $15a = 45$ $a = \underline{\quad}$ e) $3r = 36$ $r = \underline{\quad}$ f) $7y = 35$ $y = \underline{\quad}$

g) $2w = 44$ $w = \underline{\quad}$ h) $4t = 36$ $t = \underline{\quad}$ i) $7p = 42$ $p = \underline{\quad}$

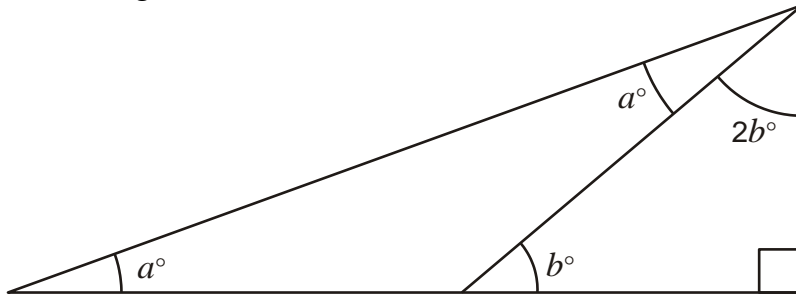
j) $3n = 69$ $n = \underline{\quad}$ k) $4t = 48$ $t = \underline{\quad}$ l) $36 = 2q$ $q = \underline{\quad}$

U11 – Solving Equations
Solving Equations
No Calculator Allowed

<p>Solve the following</p> <p>1) $2w = 18$ 2) $6y = 36$ 3) $5m = 30$</p> <p>4) $2a = 16$ 5) $2x + 3 = 15$ 6) $3x + 1 = 13$</p> <p>7) $2(x + 4) = 12$ 8) $6x - 8 = 10$ 9) $25 = 5x + 15$</p> <p>10) $10 = 2(4x - 7)$ 11) $6x - 3 = 10$ 12) $7 + 4r = 3$</p>	<p>Level 5</p>
<p>Solve these equations</p> <p>1) $4x + 3 = 2x + 11$ 2) $5x + 7 = 3x + 11$ 3) $2x - 4 = 5x - 19$</p> <p>4) $2(3x - 1) = 3x + 10$ 5) $7x + 4 = 10x - 20$ 6) $9x + 7 = 15x + 1$</p> <p>7) $8x + 3 = 2x + 21$ 8) $3x - 6 = 10 - x$</p>	<p>Level 6-7</p>

U11 – Solving Equations
Solving Equations
Calculator Allowed for question 5

Look at the triangle.



Not drawn accurately

Work out the value of a

Solve $x^2 + x + 2 = 34$ to one decimal place using trial and improvement.

U11 – Solving Equations
Solving Simultaneous Equations
Calculator Allowed

Solve these simultaneous equations. You must show your working.

1. $x + 2y = 27$
 $x + 2y = 5$

2. $x - 5y = 30$
 $x + 3y = 19$

3. $3x + 7y = 18$
 $x + 2y = 5$

4. $5x - 2y = 16$
 $3x - 2y = 8$

5. $x = 10 - y$
 $y = x + 8$

U11 – Solving Equations
Inequalities
No Calculator Allowed

1. Solve the following inequalities

a) $5x - 3 < 27$

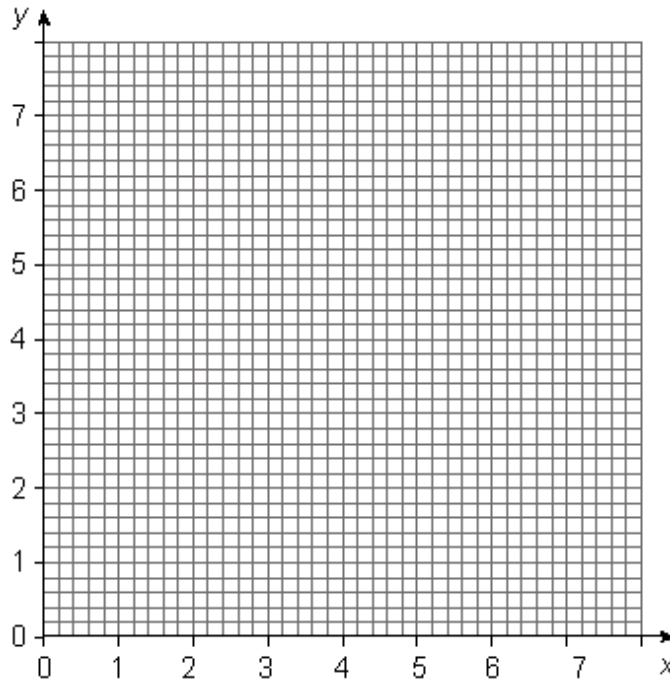
b) $7a \geq a + 9$

c) $3a - 2 \geq 5a - 9$

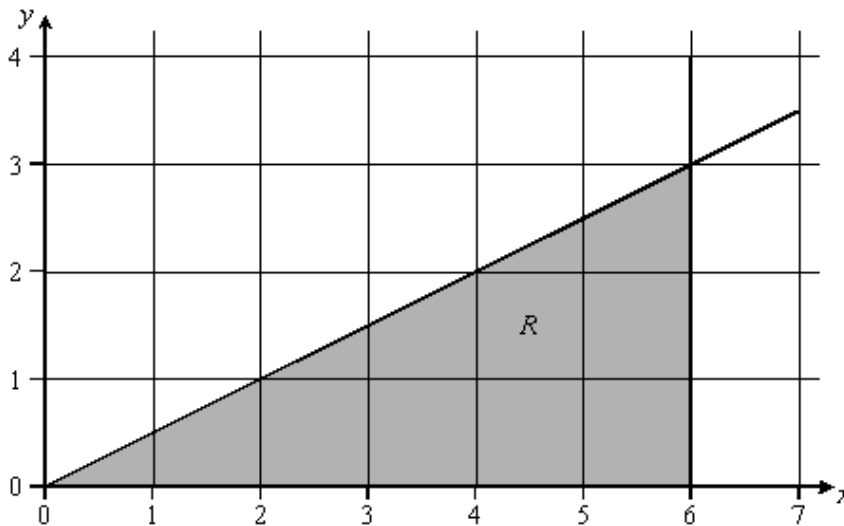
d) $-1 \leq 2n + 3 < 7$

2. x and y are integers. $x < 4$ $y < 3$ $x + y > 4$

Use a graphical method to show that there is only one possible pair of values of x and y .



3. The region R is shown shaded below.



Write down three inequalities which together describe the shaded region.