S.THOMAS COLLEGE
GURUTHALAWA

PACK ONE
Study pack

Grade 8

Mathematics

Teacher In Charge :M.R.F.Rinosha

Special Note for parents:

As your child have had an unexpected holiday his academic works, studies are get stuck.so we introduce a study pack which your child can study from home. As we hadn't enough time for the preparation please make sure to guide your child with this small and effective revision work.

Note for my students:

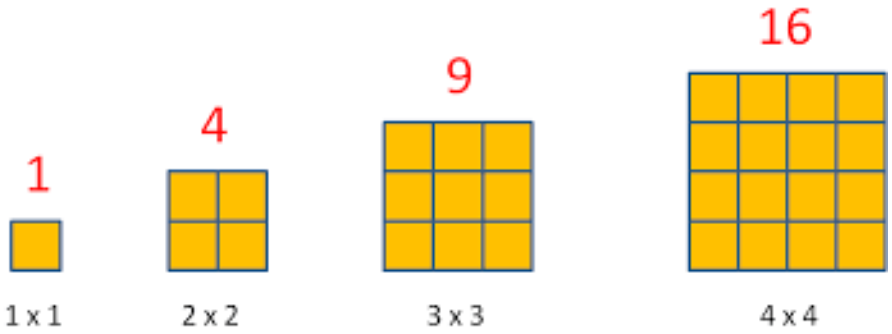
Dear Students! What a wonderful holiday that you got unexpectedly without term tests and studies. You can't escape from the school works while you play at home. While you couldn't go for outing, I have prepared some revision questions from the lessons that we've done. Please do them and bring back to school on the reopen day. If you have any doubt Please contact me on my number.

Stay safe!

Identifying Number Pattern

Identify the number pattern and fill in the missing numbers.

1)	2	3	5	8	12					
2)	5	7	11	17	25					
3)	48	47	45	42	38					
4)	101	90	80	71	63					
5)	3	7	12	18	25					
6)	79	77	74	70	65					
7)	8	9	11	14	18					
8)	65	62	58	53	47					
9)	9	13	18	24	31					
10)	13	14	16	19	23					



$1^2 = 1 \times 1 = 1$

$2^2 = 2 \times 2 = 4$

$3^2 = 3 \times 3 = 9$

$4^2 = 4 \times 4 = 16$

$5^2 = 5 \times 5 = 25$

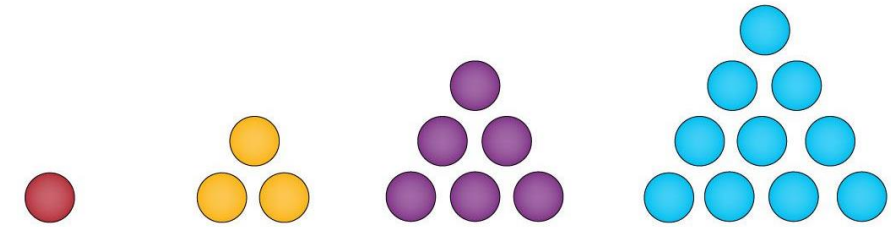
$6^2 = 6 \times 6 = 36$

$7^2 = 7 \times 7 = 49$

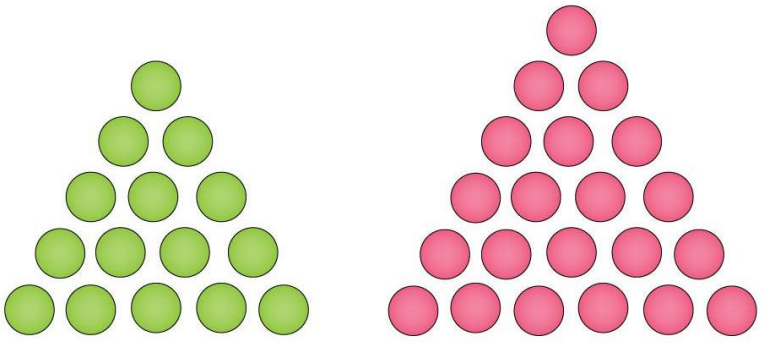
$8^2 = 8 \times 8 = 64$

$9^2 = 9 \times 9 = 81$

$10^2 = 10 \times 10 = 100$



$T_1 = 1$ $T_2 = 3$ $T_3 = 6$ $T_4 = 10$



$T_5 = 15$ $T_6 = 21$

Look at these first 3 triangular numbers:

1 3 6

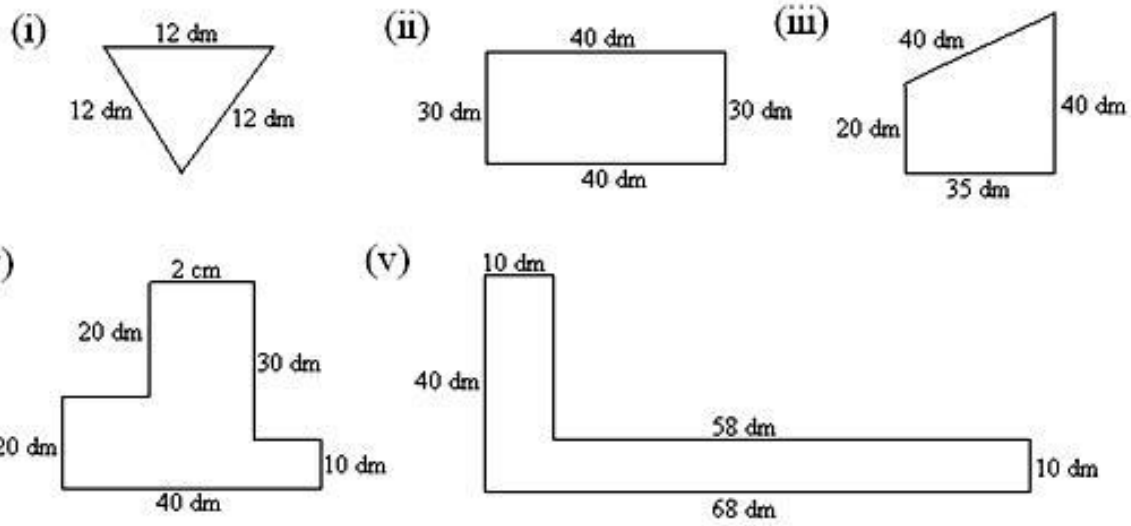
1+2 = 3 1+2+3 = 3

Now draw the next 6 triangular numbers:

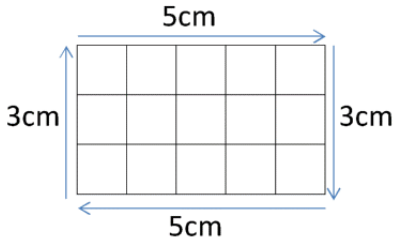
10 15 21

28 36 45

- Find the perimeter

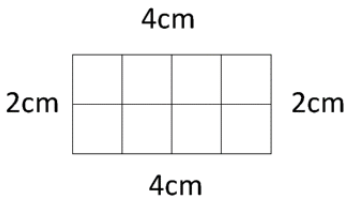


To find the perimeter of a rectangle, simply work out the distance all the way round the outside of the rectangle. The perimeter of the rectangle below is 5 + 3 + 5 + 3 = 16cm.



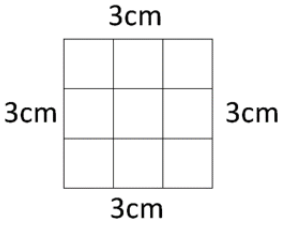
Work out the perimeter of the following rectangles:

1)



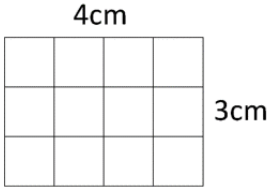
Perimeter = _____ cm

2)



Perimeter = _____ cm

3)



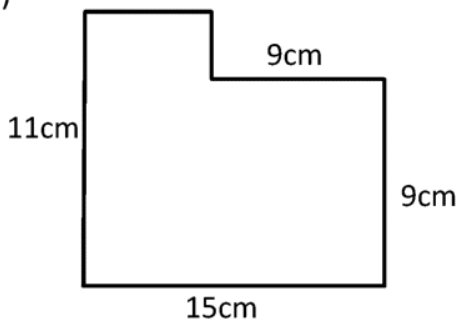
Perimeter = _____ cm

4)

Perimeter = _____ cm

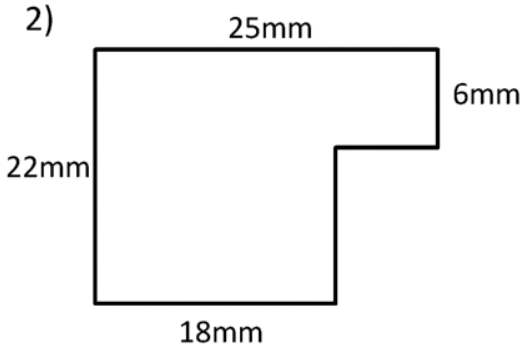
Find the length of the missing sides and then work out the perimeter of each shape. The shapes are not drawn to scale.

1)



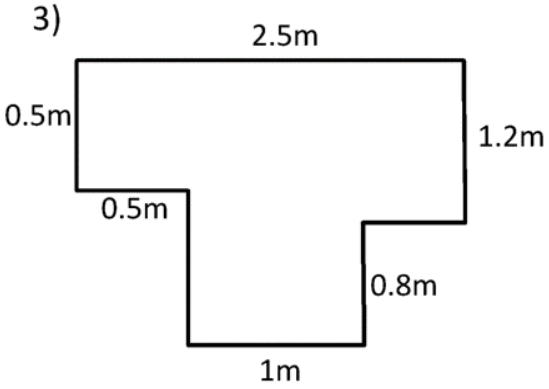
Perimeter = _____ cm

2)

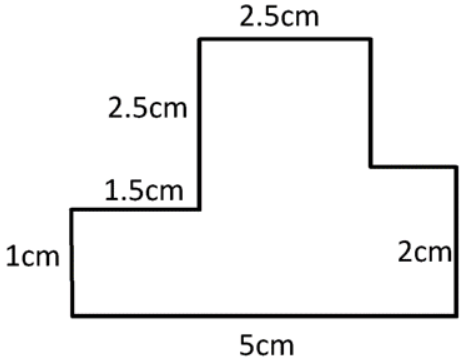


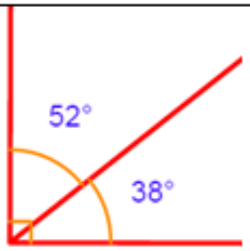
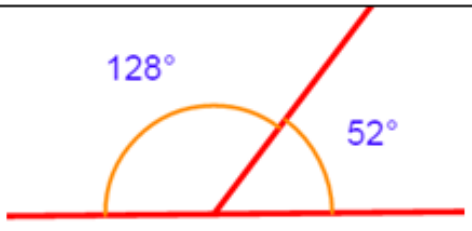
Perimeter = _____mm

3)



4)



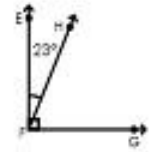
Type of Angles	Description	Example
Complementary Angles	Angles that add up to 90°	
Supplementary Angles	Angles that add up to 180°	

Complementary Angles

Find the complementary angles.

a. 

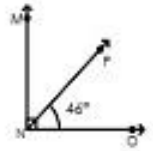
∠ABD = _____

b. 

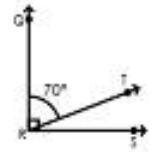
∠HFG = _____

c. 

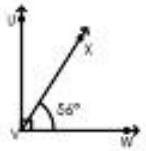
∠LJK = _____

d. 

∠MNP = _____

e. 

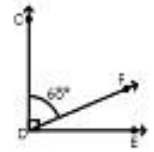
∠TKS = _____

f. 

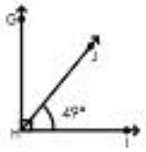
∠UVX = _____

g. 

∠BZA = _____

h. 

∠FDE = _____

i. 

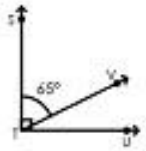
∠GHJ = _____

j. 

∠KLN = _____

k. 

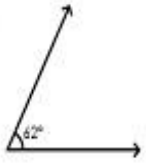
∠RPQ = _____

l. 

∠VTU = _____

Complements and Supplements

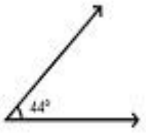
Find the complement to each angle.

a. 

complementary angle: _____

b. 

complementary angle: _____

c. 

complementary angle: _____

Find the supplement to each angle.

d. 

supplementary angle: _____

e. 

supplementary angle: _____

f. 

supplementary angle: _____

Circle the pair of angles that are supplements.

g. 

Tell whether each pair of angle measurements are complementary, supplementary, or neither.

h. 36°, 24° _____

i. 147°, 33° _____

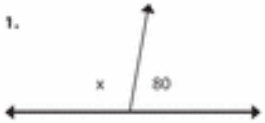
j. 18°, 72° _____

k. 51°, 39° _____

l. 67°, 105° _____

m. 96°, 84° _____

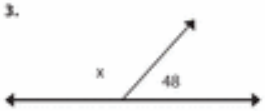
Solve for angle x.

1. 

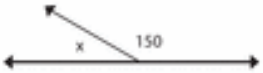
x = 100
180 - 80 = 100

2. 

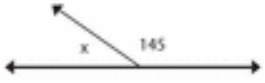
x = _____

3. 

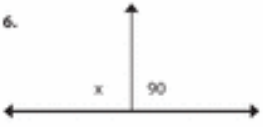
x = _____

4. 

x = _____

5. 

x = _____

6. 

x = _____

Directed Numbers

Add

Same Sign

Add and take the sign

(-3) + (-4) = -7
3 + 7 = 10

Different Sign

Subtract and take the sign of largest absolute value

(-5) + 9 = 4
(-13) + 8 = -5

Subtract

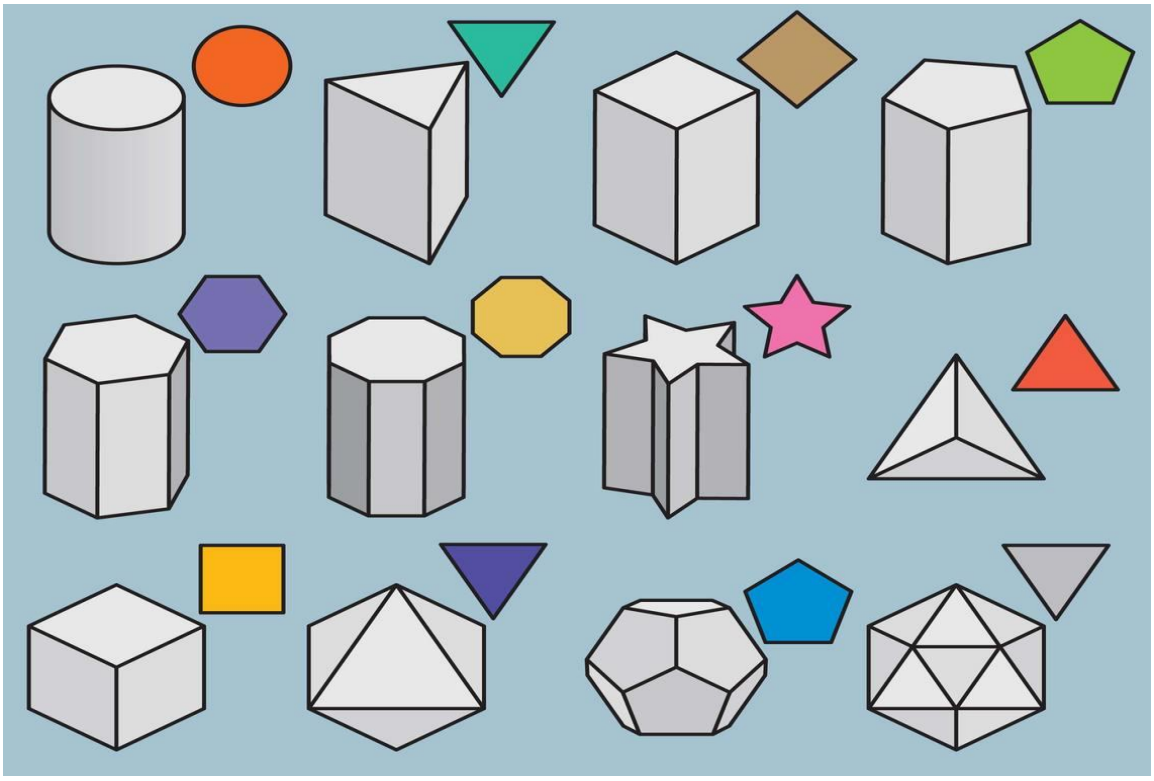
Change to add the opposite

(-3) – (+4) = (-3) + (-4)
(-5) – (-9) = (-5) + (+9)

Multiply/Divide

Same Sign
Positive answer

Different Sign
Negative answer



Negative Numbers Worksheet 4

Section A

1)	2 – 7 =	**7)**	- 8 – 11 =
2)	- 4 + 8 =	**8)**	- 15 + 1 =
3)	- 2 + 12 =	**9)**	- 12 + 14 =
4)	- 7 – 4 =	**10)**	- 10 + 23 =
5)	9 – 10 =	**11)**	- 6 – 11 =
6)	- 7 + 4 =	**12)**	- 12 – 17 =

Section B

1)	2 + - 6 =	**7)**	3 - - 4 =
2)	9 - + 9 =	**8)**	8 - - 5 =
3)	4 + - 3 =	**9)**	10 - - 6 =
4)	3 - + 8 =	**10)**	7 - - 3 =
5)	- 2 + - 4 =	**11)**	- 1 - - 3 =
6)	- 5 - + 5 =	**12)**	- 6 - - 2 =

Section C

1)	- 8 - - 12 =	**7)**	- 17 + - 9 =
2)	- 8 + - 10 =	**8)**	- 8 - + 19 =
3)	- 16 - + 7 =	**9)**	- 54 - + 24 =
4)	27 + - 5 =	**10)**	- 10 - - 8 =
5)	- 17 - - 3 =	**11)**	9 - + 20 =
6)	- 3 - - 14 =	**12)**	-18 - - 33 =

Section D

1)	7 - + 2 - - 4 =	**6)**	2 + (5 - - 3) =
2)	- 5 - - 4 + - 2 =	**7)**	- 11 + (- 8 - - 2) =
3)	4 + - 6 - - 7 =	**8)**	7 - (- 2 + - 6) =
4)	- 3 - - 9 + - 9 =	**9)**	(- 4 + - 2) + (4 - - 9) =
5)	18 + - 3 - - 4 =	**10)**	3 - ((- 1 + - 5) - 12) =

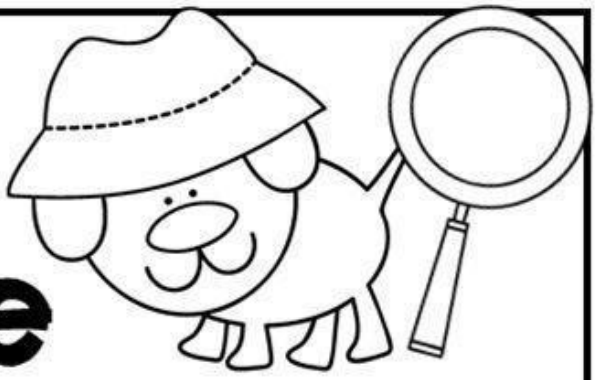
Directed Numbers

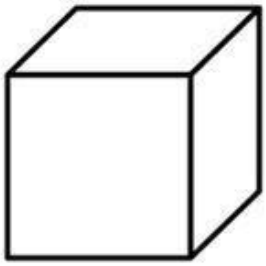
by Sheldon Blugh

1	4 -1 =	21	3 - 9 =	41	6 + (-9) =
2	6 - 4 =	22	-8 - -8 =	42	5 - (-8) =
3	-1 - 6 =	23	-1 - 2 =	43	4 + (-11) =
4	-4 + 1 =	24	-2 + 2 =	44	-7 +(12) =
5	-4 -1 =	25	-8 + 4 =	45	-2 - (-4) =
6	-1 - -2 =	26	-6 - 11 =	46	-1 + (-8) =
7	5 -12 =	27	-9 + 12 =	47	-6 - (-19) =
8	4 - 7 =	28	-3 - -6 =	48	-7 + (-8) =
9	-10 + 15 =	29	2 - 9 =	49	-4 - (-5) =
10	17 -17 =	30	8 - 7 =	50	3 + (-11) =
11	-8 -15 =	31	-4 - 6 =	51	4 + (-6) =
12	5 - -5 =	32	- 9 + 7 =	52	6 - (-18) =
13	14 -12 =	33	-13 - 9 =	53	4 - (-3) =
14	-10 -18 =	34	-11 + 13 =	54	-8 - (-5) =
15	9 - 5 =	35	10 - - 9 =	55	-3 + (-9) =
16	2 - 6 =	36	14 - 18 =	56	-5 + (-18) =
17	-3 - - 7 =	37	-14 + 18 =	57	3 + (-2) =
18	-17 - 7 =	38	-14 - - 18 =	58	5 - (-4) =
19	10 -17 =	39	- 14 - 18 =	59	-3 + (-17) =
20	-13 + 15 =	40	-18 -14 =	60	-8 - (-9) =

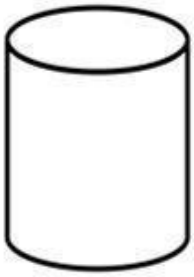
Name: _____

3D Solid Detective

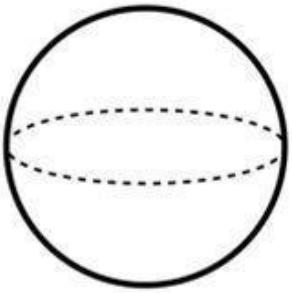




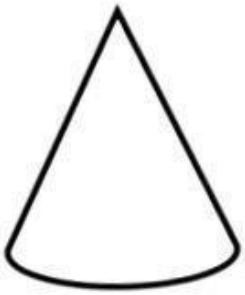
Faces: _____
Edges: _____
Vertices: _____



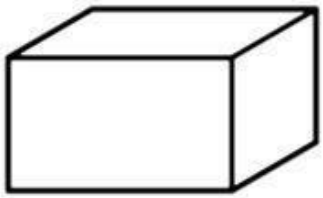
Faces: _____
Edges: _____
Vertices: _____



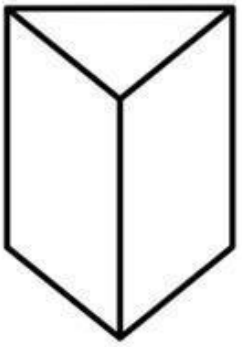
Faces: _____
Edges: _____
Vertices: _____



Faces: _____
Edges: _____
Vertices: _____



Faces: _____
Edges: _____
Vertices: _____



Faces: _____
Edges: _____
Vertices: _____

c. Factorise $6p$ and $8p^2$, and then identify their common factors.

$6p = \mathbf{2} \times 3 \times \mathbf{p}$ $\{6 = 2 \times 3\}$

$8p^2 = \mathbf{2} \times 2 \times 2 \times \mathbf{p} \times p$ $\{8 = 2 \times 4 = 2 \times 2 \times 2\}$

$\therefore$ HCF $= 2 \times p$ {Product of common factors}

$= 2p$

Find the least common multiple.

1) 4n, 6m, 8m

LCM = _____

2) $12b^3$, 18, $2b^4$

LCM = _____

3) p^3q, $2q^3r^4$, $10r^3p^4$

LCM = _____

4) x^6, x^2y^5, 5

LCM = _____

5) $3k^4$, $9k^3$, $15k^2$

LCM = _____

6) s^3, $13s^5$, s^2

LCM = _____

Simplifying Expressions (A)

Simplify each expression.

1. $u^2 + 1 + u - 1$

2. $-b + b^2 - 1 + b^2$

3. $6 + z + z^2 + z$

4. $u^2 + 6 + u + 6u$

5. $u - 6u - 4u + u^2$

6. $c + 4 + 6c + 1$

7. $5 + c + 1 - 1$

8. $-5 + 6u^2 + 3 + u$

9. $2u + 3u - 6u - 5u^2$

10. $-4b - b + 3b^2 + b$

Simplify each expression.

1) $10x - 8x + 2 + 10$

2) $3a + 7 + 2(3 + a)$

3) $3(m - 5) + m$

4) $2s + 10 - 7s - 8 + 3s - 7$

Adding & Subtracting Linear Expressions (A)

Simplify each expression.

1. $(-6p - 8) - (2p - 6)$

2. $(-8r - 2) + (4r - 3)$

3. $(-z - 8) - (6z - 5)$

4. $(-s - 5) + (-2s + 2)$

5. $(-7s + 4) - (-8s + 4)$

6. $(-4f + 9) - (8f + 9)$

7. $(-8f) + (-f + 8)$

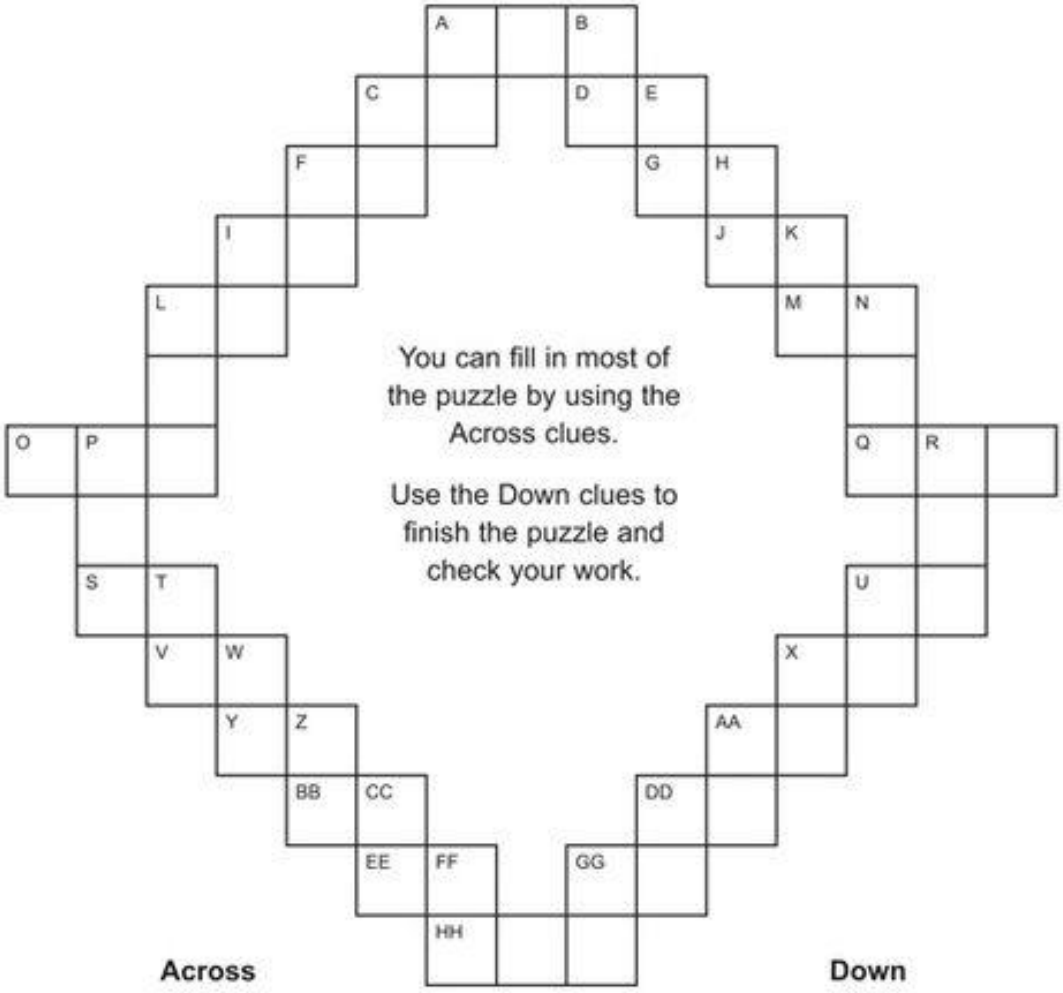
8. $(4p - 4) + (-7p - 7)$

9. $(7v - 9) - (6v + 9)$

10. $(-3g) + (5g - 5)$

Cross-Number Puzzle

Worksheet



Across

A. 11 x 12
C. 1 x 11
D. 12 x 7
F. 5 x 11
G. 9 x 6
I. 4 x 5
J. 3 x 9
L. 8 x 8
M. 3 x 7
O. 7 x 30
Q. 60 x 8
S. 8 x 11
U. 10 x 9
V. 2 x 7
X. 7 x 7
Y. 6 x 8
AA. 9 x 2
BB 3 x 4
DD. 4 x 8
EE. 8 x 7
GG. 7 x 9
HH. 10 x 60

Down

A. 11 x 1
B. 7 x 4
C. 5 x 3
E. 9 x 5
F. 5 x 10
H. 7 x 6
I. 4 x 6
K. 9 x 8
L. 8 x 80
N. 12 x 12
P. 9 x 12
R. 80 x 11
T. 9 x 9
U. 9 x 11
W. 11 x 4
X. 6 x 8
Z. 1 x 81
AA. 2 x 6
CC. 5 x 5
DD. 3 x 11
FF. 11 x 6
GG. 6 x 10

Solve the Sudoku Puzzle!

4	1			8	2	6		3						
		7	5		9		1	8						
8		2	3		6	7		4						
	2		8		7	4	3	1						
		1			3		8							
3		4	9		1	5		2						
	5	3	1		4			7	1	2				9
1	4	8	6		5		2	9		7		1	8	
7	6				8	1	4		8		3	7		2
						7		2	6	5				1
							5	1	2	3		8	7	6
								8		1			2	3
1	7		3		4	9		6	7	4	1		3	
3	6	9		5	7	2	1	4	3	8	5	6		7
8	4		6	1	9	5		3	9		2	4	1	
		4		7		3	6							
2	3		5	9	8	7	4	1						
9		7		6	3	8	5							
	5	8		3	6		2	7						
7	9				5	6	3	8						
6		3		8		4	9							