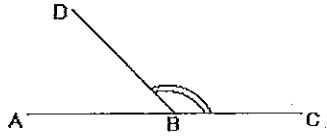


## Year 7 - June Common Test

ALL WORK TO BE DONE ON THIS SHEET IN THE SPACES PROVIDED

Name: \_\_\_\_\_ Teacher: \_\_\_\_\_

### Question 1

- (a) (i) Using the letters in the diagram opposite ---->  
name the angle marked 

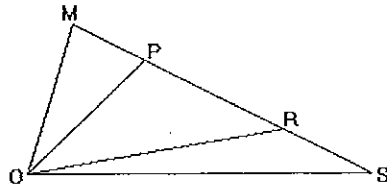
Answer: \_\_\_\_\_

- (ii) What "type" of angle is this ?

Answer: \_\_\_\_\_

- (b) Look at the diagram opposite ----->  
Which angle is the largest ?  
 $\angle ROS$  or  $\angle ROP$  or  $\angle MOS$  or  $\angle MSO$

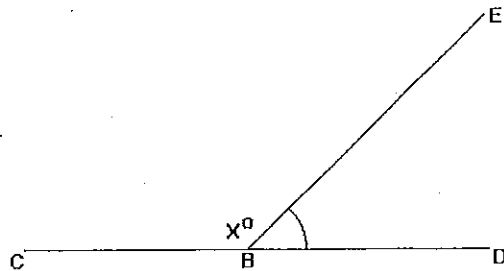
Answer: \_\_\_\_\_



- (c) Using a protractor measure the angles mentioned.

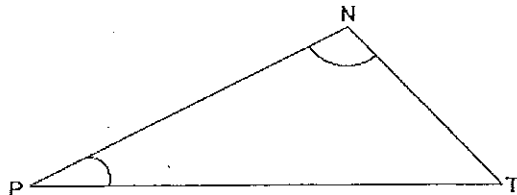
- (i) Measure  $\angle EBD =$  \_\_\_\_\_

- (ii) Calculate  $\angle CBE$   $x =$  \_\_\_\_\_



- (iii) Measure  $\angle NPT =$  \_\_\_\_\_

- (iv) Measure  $\angle PNT =$  \_\_\_\_\_



### Question 2

- (a) Complete the following sentences:

- (i) Complementary angles add up to \_\_\_\_\_ degrees.  
 (ii) Co-interior angles add up to \_\_\_\_\_ degrees.  
 (iii) An "acute" angle is less than \_\_\_\_\_ degrees.  
 (iv)  $\frac{3}{4}$  of a revolution (a  $\frac{3}{4}$ -turn) is \_\_\_\_\_ degrees.

- (b) From the diagram opposite choose (by number)

- (i) A pair of "Alternate" angles.

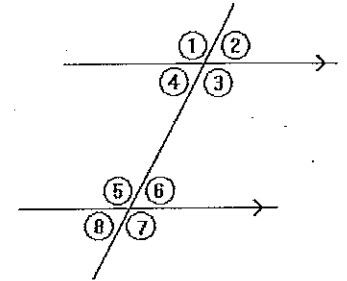
Answer: \_\_\_\_\_ & \_\_\_\_\_

- (ii) A pair of "Corresponding" angles.

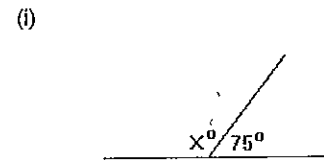
Answer: \_\_\_\_\_ & \_\_\_\_\_

- (iii) A pair of "Supplementary" angles.

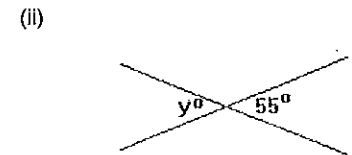
Answer: \_\_\_\_\_ & \_\_\_\_\_



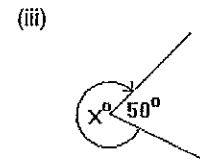
- (c) Calculate the size of the angles marked with the pronumerals  $x$  and  $y$ .  
(NO reasons need be given)



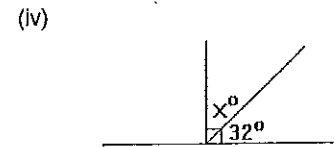
$x =$



$y =$



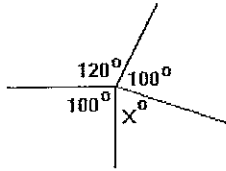
$x =$



$x =$

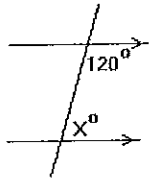
Question 2 - continued

(v)



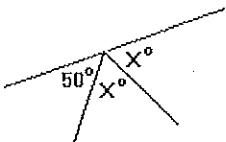
$x =$

(vii)



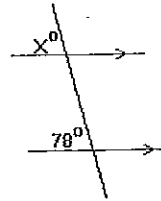
$x =$

(ix)



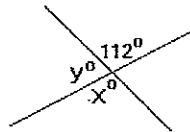
$x =$

(vi)



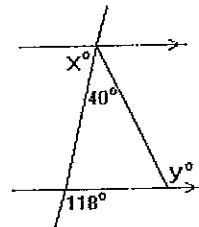
$x =$

(viii)



$x =$        $y =$

(x)



$x =$        $y =$

Question 3

(a) Fill in the next 2 numbers in the patterns below

(i) 21, 17, 13, 9, \_\_\_\_\_, \_\_\_\_\_

(ii) 2, 6, 18, 54, \_\_\_\_\_, \_\_\_\_\_

(iii) -2, 1, 6, 13, \_\_\_\_\_, \_\_\_\_\_

(b) Find the rule connecting  $x$  and  $y$  in each of the following tables:-

(i)

$x$	1	3	5	7
$y$	4	6	8	10

the Rule is:  $y =$

(ii)

$x$	3	4	5	6
$y$	8	11	14	17

the Rule is:  $y =$

(iii)

$x$	4	5	7	10
$y$	13	22	46	97

the Rule is:  $y =$

(c) If  $x = 8$  find the values of each of the following expressions:

(i)  $5 - x =$

(ii)  $6 \times x - 10 =$

(d) If  $x = -3$  find the values of each of the following expressions:

(i)  $x \times 4 + 3 =$

(ii)  $-2 \times x \times x =$

**Question 4**

(a) Complete the tables below, using the rule given:-

(i) Rule is:  $y = x - 3$

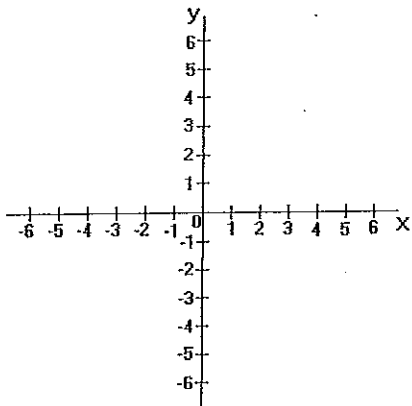
X	6	4	3	1	0	-2
Y						

(ii) Rule is:  $y = 2 \times x - 5$

X	7	10	2	0	-3	-1.5
Y						

(Working out goes here..)

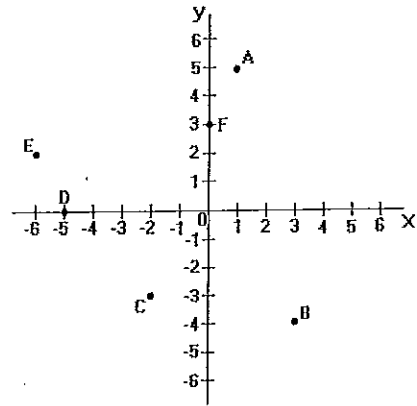
(b) Plot and label the following points on the number plane below:-



A = (3, 5) B = (5, 0) C = (0, -1)

D = (6, 2) E = (-3, 4) F = (2, -5)

(c) Fill in the co-ordinates of the points shown below in the diagram.



A = ( , ) B = ( , ) C = ( , )

D = ( , ) E = ( , ) F = ( , )

**Question 5**

(a) Arrange these 4 numbers in order from smallest to largest -5, 0, -6, -3

Answer: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

(b) Simplify:

(1)  $-7 + 4 =$

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

(2)  $-12 \div 4 =$

(6)  $(-6)^2 =$

(3)  $(-2) - (-8) =$

(7)  $-4 \times 3 - 2 \times -5 =$

(4)  $-2 - 5 =$

(8)  $\frac{-8 \times -6}{-4 \times 3} =$

(c) (i) Subtract 8 from negative five.

Answer: \_\_\_\_\_

(ii) On a very cold day in the mountains the temperature was  $-5^{\circ}\text{C}$ . By midday the temperature had risen by  $9^{\circ}\text{C}$ , but by 6 pm the temperature had dropped a further  $7^{\circ}\text{C}$ . What was the temperature at 6pm?

Answer: \_\_\_\_\_

(iii) What is twice the sum of -5 and 2?

Answer: \_\_\_\_\_

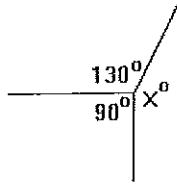
(iv) The sum of two numbers is -5 and their product is -24. What are the 2 numbers?

Answer: \_\_\_\_\_

**PART B**

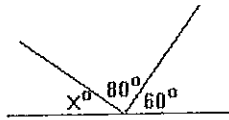
(a) Calculate the size of the angles marked with the pronumerals  $x$  and  $y$ .  
(NO reasons need be given)

(i)



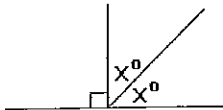
$x =$

(ii)



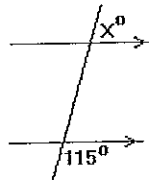
$x =$

(iii)



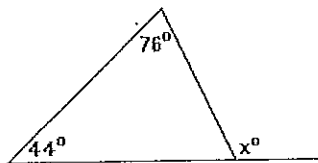
$x =$

(iv)



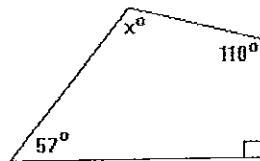
$x =$

(v)



$x =$

(vi)



$x =$

(b) Complete the following:

(i) The supplement of  $61^\circ$  is \_\_\_\_\_.

(ii) The next 2 numbers in the pattern :  $-10, -7, -4, -1, \dots$   
are \_\_\_\_\_ and \_\_\_\_\_

(iii) For the table below the Rule is:  $y =$

$x$	2	3	4	6
$y$	10	15	20	30

(iv) 3 more than  $-1$  is \_\_\_\_\_

(v)  $-5 \times -2 =$

(vi)  $5 \times -12 \times -4 =$

(c) (i) If  $x = 24$  then the value of  $x + 3 + 5 =$

(ii) If  $x = -3$  then the value of  $5 - x =$

(iii) If  $a = -5$  then the value of  $3a^2 =$

[ - END OF EXAMINATION - ]

Year 7 - June Common Test

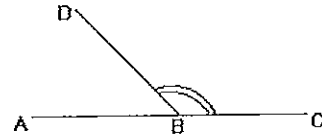
ALL WORK TO BE DONE ON THIS SHEET IN THE SPACES PROVIDED

Name: SOLUTIONS Teacher: \_\_\_\_\_

Question 1

- (a) (i) Using the letters in the diagram opposite ----->  
name the angle marked  $\Delta$

Answer:  $\angle DBC$

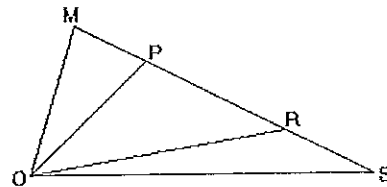


- (ii) What "type" of angle is this?

Answer: Obtuse

- (b) Look at the diagram opposite ----->  
Which angle is the largest?  
 $\angle ROS$  or  $\angle ROP$  or  $\angle MOS$  or  $\angle MSO$

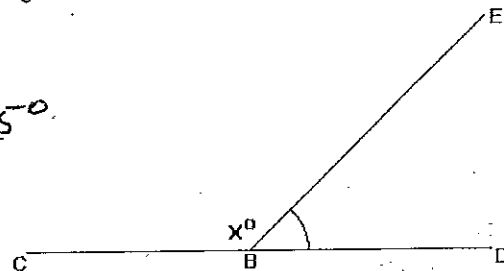
Answer:  $\angle MOS$



- (c) Using a protractor measure the angles mentioned.

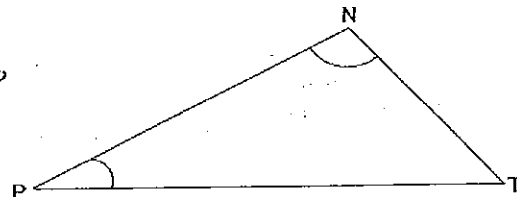
(i) Measure  $\angle EBD = \underline{45^\circ}$

(ii) Calculate  $\angle CBE$   $x = \underline{135^\circ}$



(iii) Measure  $\angle NPT = \underline{26^\circ}$

(iv) Measure  $\angle PNT = \underline{109^\circ}$



Question 2

- (a) Complete the following sentences:

- (i) Complementary angles add up to 90 degrees.  
 (ii) Co-interior angles add up to 180° degrees.  
 (iii) An "acute" angle is less than 90 degrees.  
 (iv)  $\frac{3}{4}$  of a revolution (a  $\frac{3}{4}$ -turn) is 270 degrees.

- (b) From the diagram opposite choose (by number)

- (i) A pair of "Alternate" angles.

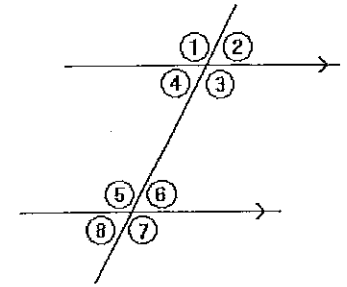
Answer: 4 & 6 or 3 & 5

- (ii) A pair of "Corresponding" angles.

Answer: 1 & 5 or 2 & 6  
 or 4 & 8 or 3 & 7

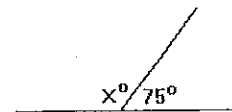
- (iii) A pair of "Supplementary" angles.

Answer: 4 & 5 or 3 & 6  
 or 1 & 8 or 2 & 7 etc.



- (c) Calculate the size of the angles marked with the pronumerals  $x$  and  $y$ .  
(NO reasons need be given)

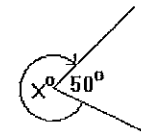
- (i) (ii)



$$x + 75^\circ = 180^\circ$$

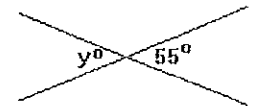
$$\underline{x = 105^\circ}$$

- (iii)



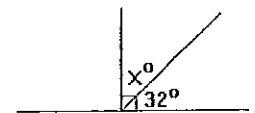
$$x + 50 = 360$$

$$\underline{x = 310^\circ}$$



$$\underline{y = 55^\circ}$$

- (iv)

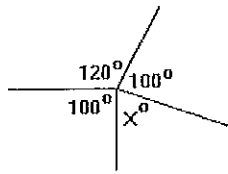


$$x + 32 = 90$$

$$\underline{x = 58^\circ}$$

Question 2 - continued

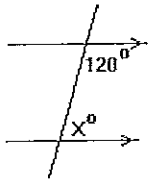
(v)



$$120 + 100 + 100 + x = 360$$

$$x = \underline{40^\circ}$$

(vii)

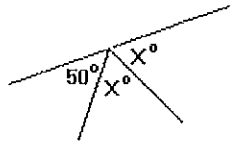


$$x + 120^\circ = 180^\circ$$

Co-interior  $\angle$ 's

$$x = \underline{60^\circ}$$

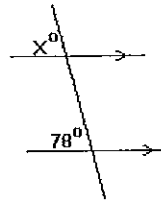
(ix)



$$2x + 50 = 180^\circ$$

$$x = \underline{65^\circ}$$

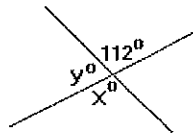
(vi)



Corresponding  $\angle$ 's are =

$$x = \underline{78^\circ}$$

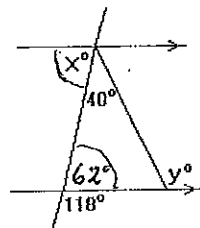
(viii)



$$y + 112 = 180^\circ$$

$$x = \underline{112^\circ} \quad y = \underline{68^\circ}$$

(x)



$$x + 40 = y$$

$$x = \underline{62^\circ} \quad y = \underline{102^\circ}$$

Question 3

(a) Fill in the next 2 numbers in the patterns below

(i) 21, 17, 13, 9, 5, 1

(ii) 2, 6, 18, 54, 162, 486

(iii) -2, 1, 6, 13, 22, 33

(b) Find the rule connecting  $x$  and  $y$  in each of the following tables:-

(i)

$x$	1	3	5	7
$y$	4	6	8	10

the Rule is:  $y = x + 3$

(ii)

$x$	3	4	5	6
$y$	8	11	14	17

the Rule is:  $y = 3x - 1$

(iii)

$x$	4	5	7	10
$y$	13	22	46	97

the Rule is:  $y = x^2 - 3$

(c) If  $x = 8$  find the values of each of the following expressions:

(i)  $5 - x = -3$

(ii)  $6 \times x - 10 = 38$

(d) If  $x = -3$  find the values of each of the following expressions:

(i)  $x \times 4 + 3 = -9$

(ii)  $-2 \times x \times x = -18$

### Question 4

(a) Complete the tables below, using the rule given:-

(i) Rule is:  $y = x - 3$

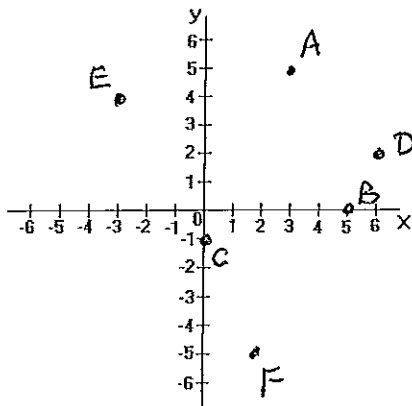
x	6	4	3	1	0	-2
y	3	1	0	-2	-3	-5

(ii) Rule is:  $y = 2 \times x - 5$

x	7	10	2	0	-3	-1.5
y	9	15	-1	-5	-11	-8

(Working out goes here..)

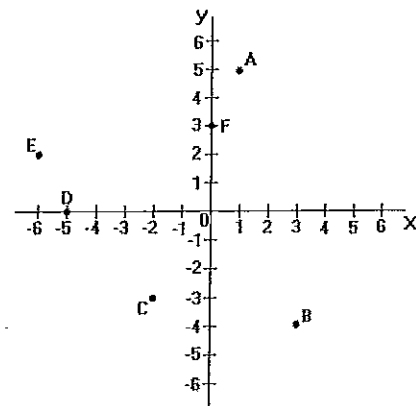
(b) Plot and label the following points on the number plane below:-



A = (3, 5) B = (5, 0) C = (0, -1)

D = (6, 2) E = (-3, 4) F = (2, -5)

(c) Fill in the co-ordinates of the points shown below in the diagram.



A = (1, 5) B = (3, -4) C = (-2, -3)

D = (-5, 0) E = (-6, 2) F = (0, 3)

### Question 5

(a) Arrange these 4 numbers in order from smallest to largest 5, 0, -6, -3

Answer: -6, -3, 0, 5

(b) Simplify:

(1)  $-7 + 4 = -3$

(5)  $4 - 9 + 8 - 5 = -2$

(2)  $-12 + 4 = -8$

(6)  $(-6)^2 = 36$

(3)  $(-2) - (-8) = 6$

(7)  $-4 \times 3 - 2 \times -5 = -2$

(4)  $-2 - 5 = -7$

(8)  $\frac{-8 \times -6}{-4 \times 3} = -4$

(c) (i) Subtract 8 from negative five.

$(-5) - (8)$

Answer: -13

(ii) On a very cold day in the mountains the temperature was  $-5^\circ\text{C}$ . By midday the temperature had risen by  $9^\circ\text{C}$ , but by 6 pm the temperature had dropped a further  $7^\circ\text{C}$ . What was the temperature at 6pm?

$-5 + 9 - 7 =$

Answer:  $-3^\circ\text{C}$

(iii) What is twice the sum of -5 and 2?

$2 \times (-5 + 2) =$

Answer: -6

(iv) The sum of two numbers is -5 and their product is -24. What are the 2 numbers?

$\square + \diamond = -5$

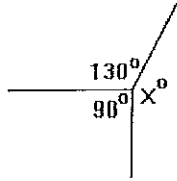
$\square \times \diamond = -24$

Answer: -8 & 3

PART B

- (a) Calculate the size of the angles marked with the pronumerals  $x$  and  $y$ .  
(NO reasons need be given)

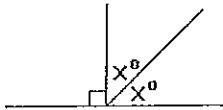
(i) (ii)



$$130 + 90 + x = 360$$

$$x = \underline{\underline{140^\circ}}$$

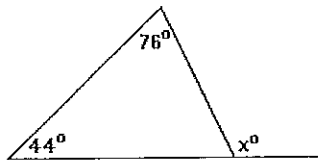
(iii)



$$2x + 90 = 180$$

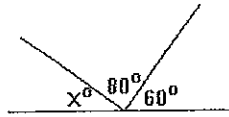
$$x = \underline{\underline{45^\circ}}$$

(v)



$$x = 44^\circ + 76^\circ$$

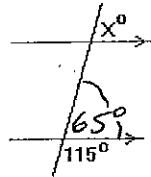
$$x = \underline{\underline{120^\circ}}$$



$$x + 80 + 60 = 180$$

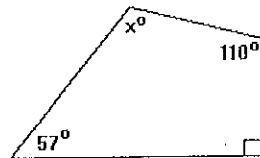
$$x = \underline{\underline{40^\circ}}$$

(iv)



$$x = \underline{\underline{65^\circ}} \text{ (corresponding \(\angle\)'s)}$$

(vi)



$$x + 110 + 90 + 57 = 360$$

$$x = \underline{\underline{103^\circ}}$$

- (b) Complete the following:

(i) The supplement of  $61^\circ$  is 119°.

(ii) The next 2 numbers in the pattern:  $-10, -7, -4, -1, \dots$  are 2 and 5.

(iii) For the table below the Rule is:  $y = 5x$

$x$	2	3	4	6
$y$	10	15	20	30

(iv) 3 more than  $-1$  is +2.

(v)  $-5 \times -2 = +10$

(vi)  $5 \times -12 \times -4 = +240$

(c) (i) If  $x = 24$  then the value of  $x + 3 + 5 = 13$

(ii) If  $x = -3$  then the value of  $5 - x = 8$

(iii) If  $a = -5$  then the value of  $3a^2 = 75$

[ - END OF EXAMINATION - ]