



Name: \_\_\_\_\_ Subject: Math Grade: VII Roll No: \_\_\_\_\_ Date: \_\_\_\_\_

1. As a part of environmental study, a supermarket conducts a survey to see how many plastic shopping bags each customer uses. The frequency table shows the results.

Number of plastic bags	Frequency
0	15
1	18
2	25
3	10
4	5
5	2

a) How many customers were included in the survey?

.....

b) Calculate the range of the numbers of plastic bags used.

.....

c) Calculate the mean number of plastic bags per customer.

.....

d) Calculate the median number of plastic bags per customer.

.....

2. Construct a triangle XYZ where  $XY = 7\text{cm}$ ,  $XZ = 3\text{cm}$  and  $YZ = 5\text{cm}$ .

Use ruler and a pair of compasses.

Measure accurately each of the angles X, Y and Z.

$\angle X = \dots\dots\dots$        $\angle Y = \dots\dots\dots$        $\angle Z = \dots\dots\dots$

3. Draw an angle AOB of measure  $144^\circ$  using ruler and protractor.

Then draw its angle bisector using ruler and a pair of compasses.

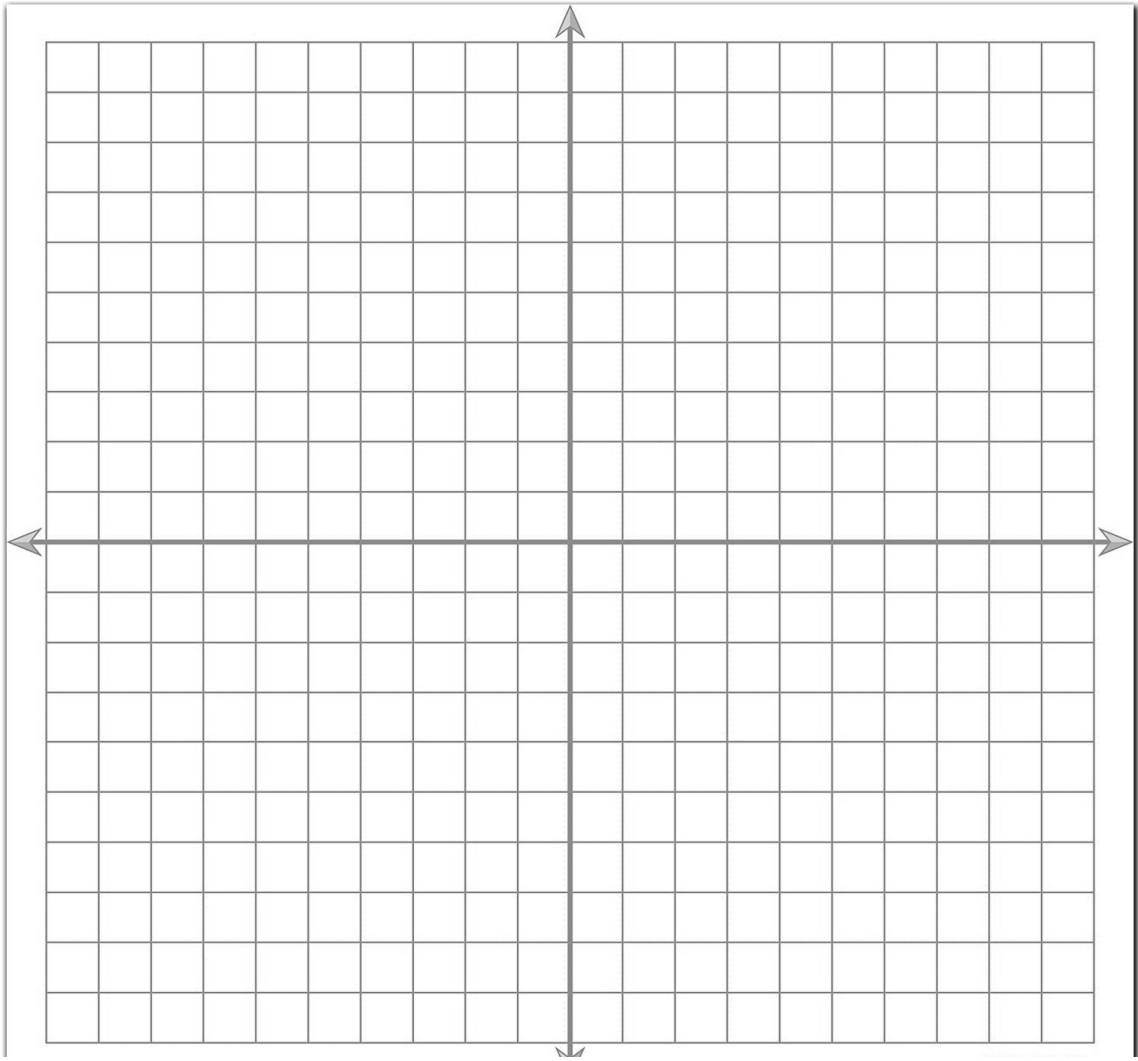
Label the angle bisector as OP.

4. Complete this table for  $y = -2x + 4$

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

Working

Now draw the graph for  $y = -2x + 4$



Does the point  $(-9, 24)$  lie on the above line. Give reason for your answer.

.....

Also draw the line  $y = -3$  on the above graph.

Write the coordinates of point where both the lines meet. ....

5. Find the midpoint of line segment between:

a)  $(-7, 13)$  and  $(-5, -11)$

b)  $(15, -25)$  and  $(-30, 40)$

6. a) a four –sided and a six- sided dice are rolled. Complete the two-way table to show all possible combinations.

		Dice 1			
		1	2	3	4
Dice 2	1	1,1			
	2				
	3				
	4				
	5		2,5		
	6				

What is the probability of:

- b) getting a double 3 ? .....
- c) not getting a double 3? .....
- d) getting a total score of 6? .....
- e) not getting a total score of 6? .....
- f) getting an even number on both dice ? .....
- g) getting scores which differ by 2? .....
- h) getting a result in which the score on dice 1 is greater than that of on dice 2?  
.....

7. A spinner with four colours – red, blue, yellow and green is spun 20 times. The result are as follows:

Colour	Red	Blue	Green	Yellow
Frequency	3	2	7	8

What is the experimental probability of getting:

- a) red colour ?.....
- b) yellow colour ? .....

The spinner is spun 80 more times and the results are as follows-

Colour	Red	Blue	Green	Yellow
Frequency	20	22	19	19

Now calculate experimental probability of getting red colour based on 100 spins.

.....

Which sets of results is likely to be more accurate? 20 spins or 100 spins

.....

Give reason for your answer.

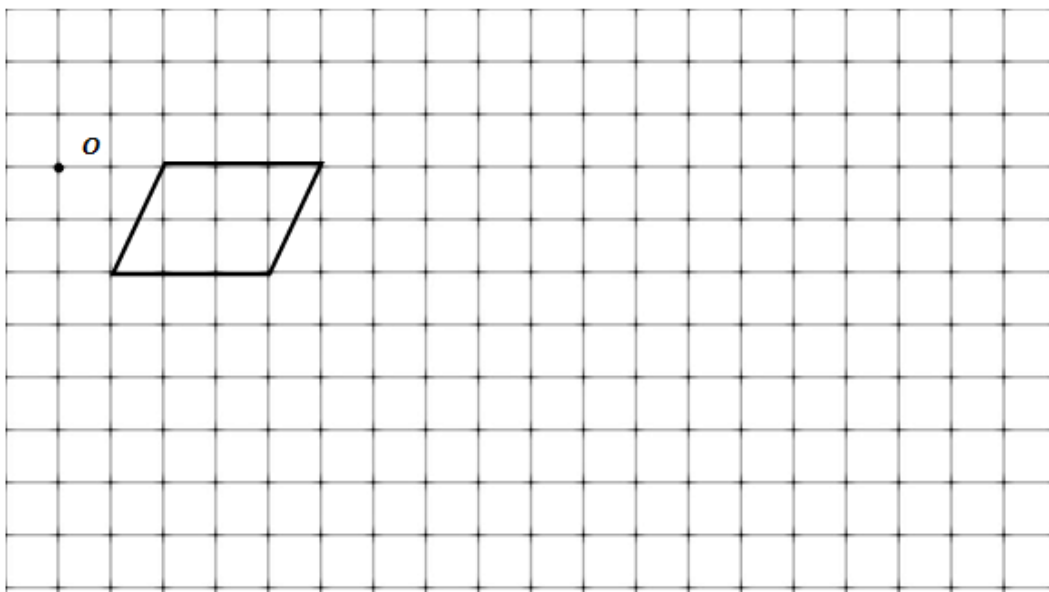
.....

Is the spinner biased or fair? Explain your answer.

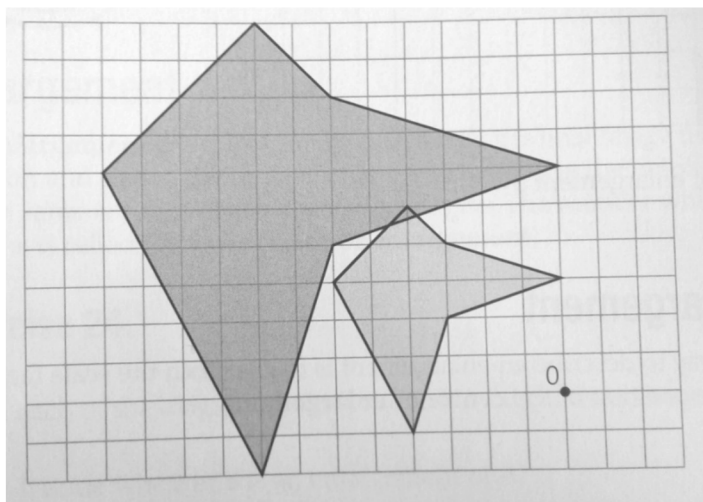
.....

8. a) Enlarge the given shape by the given scale factor of enlargement and from the centre of enlargement  $O$ .

Scale of enlargement 3



b) For the given figure, where the larger shape is an enlargement of the smaller one from the centre of enlargement  $O$ . Find the scale factor of enlargement.



Scale factor = .....

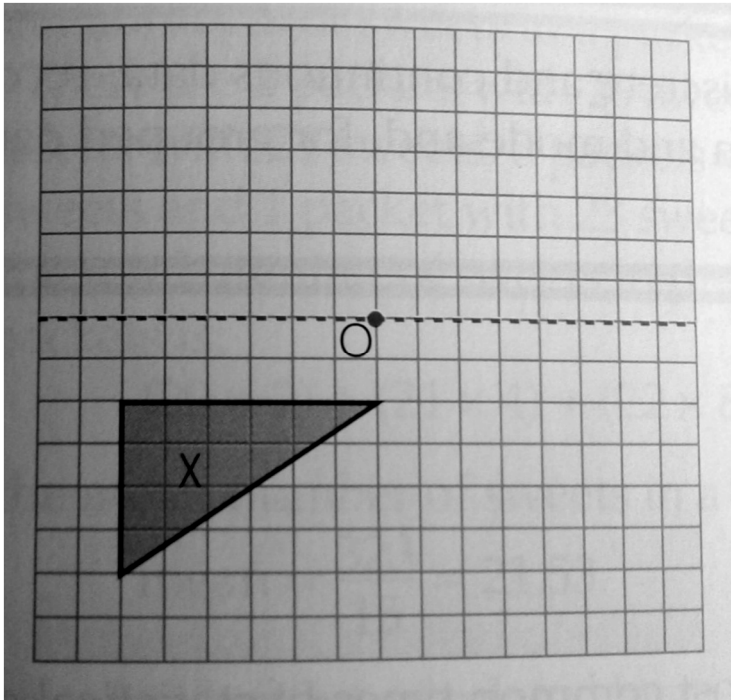
9. The shape X undergoes two transformations .

The first transformation maps X on to an image Y , the second maps Y on to an image Z.

Follow the instructions and draw images Y and Z. Label them clearly.

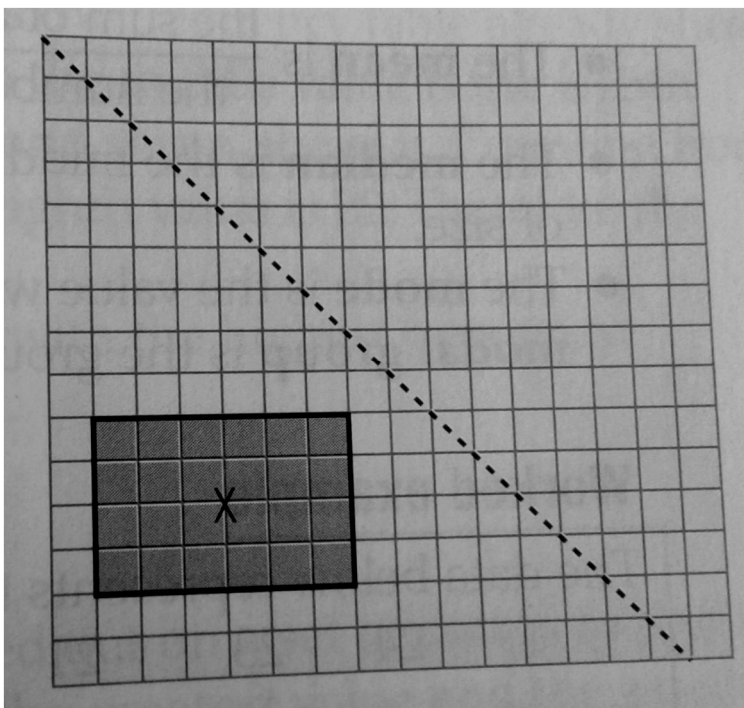
a) First reflect in mirror line (Y)

then rotate by  $90^\circ$  clockwise about O (Z)



b) First reflect in mirror line (Y)

then translate by 1 square right and 8 squares down (Z)





## Consolidated Practice Worksheet No. 2-Math

(2019-20)

Name: \_\_\_\_\_ Grade: VII Roll No: \_\_\_\_\_ Date: \_\_\_\_\_

1.

a) Work out the answers.

$$-6 - 7 = \dots\dots\dots \quad 8 - 11 = \dots\dots\dots \quad 5 - -9 = \dots\dots\dots$$

$$9 + -4 = \dots\dots\dots \quad -12 + -20 = \dots\dots\dots$$

$$-6 \times -9 = \dots\dots\dots \quad 7 \times -11 = \dots\dots\dots \quad -12 \times 5 = \dots\dots\dots$$

$$14 \div -2 = \dots\dots\dots \quad -72 \div -3 = \dots\dots\dots \quad -32 \div 4 = \dots\dots\dots$$

$$4^5 = \dots\dots\dots \quad 2^8 = \dots\dots\dots$$

$$\sqrt[3]{216} = \dots\dots\dots \quad \sqrt{144} = \dots\dots\dots$$

b) Find highest common factor of 6, 9 and 36

.....

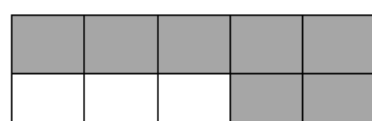
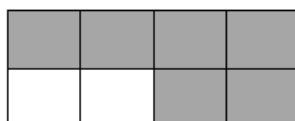
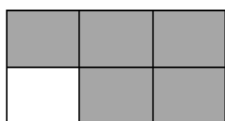
c) Find lowest common multiple of 3, 5 and 15.

.....

d) Write two prime number that add up to 48.

.....

2. These diagrams show the first three patterns in a sequence of growing tile patterns.



a) Draw next two diagrams in the sequence.

b) Complete this table.

Number of white squares	1	2	3	4	5
Number of grey squares					

c) Describe the term to term rule for the number of grey squares.

.....

d) Describe the position to term rule linking the number of white squares (p) to the number of grey squares (n).

.....

e) Use your rule in part d) to find the number of grey squares in a pattern with 100 white squares.

.....

3. a) Round the number 18.295

to nearest whole number .....

to nearest one decimal place .....

to nearest two decimal places .....

b) solve mentally

$2260 \times 0.1 = \dots\dots\dots$

$0.43 \div 0.01 = \dots\dots\dots$

c) Circle the greater quantity or value in each box.

25 m	23000mm
------	---------

5.63 + 23.1	29 - 0.08
-------------	-----------

300 kg	0.4 tonnes
--------	------------



**4. Fill in the blank.**

105 miles = .....km

208 km = .....miles

**5. a) Write either 'alternate', 'corresponding' or 'vertically opposite' to complete each of the following sentences.**

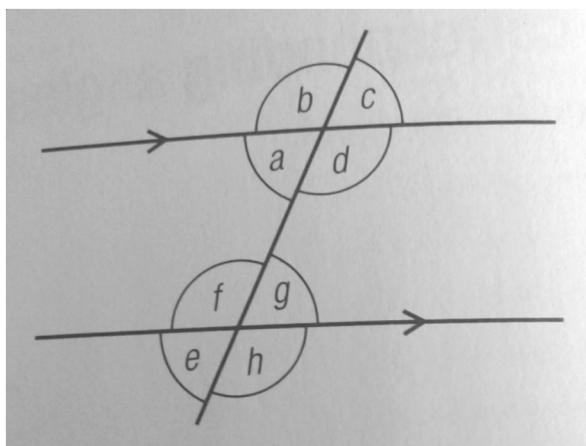
Angles *e* and *g* are .....

Angles *g* and *c* are .....

Angles *h* and *f* are .....

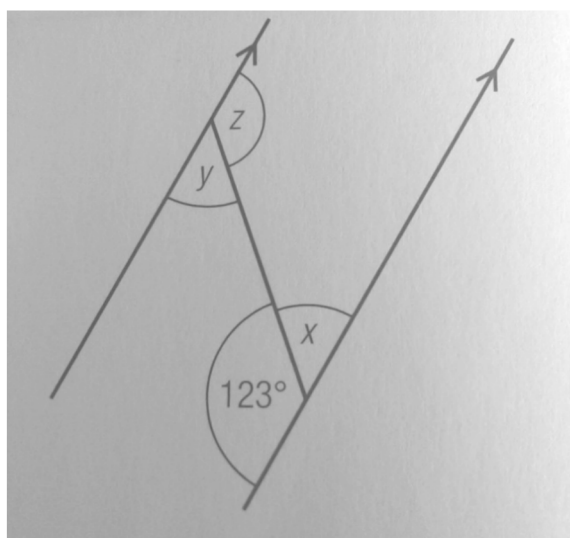
Angles *h* and *d* are .....

Angles *d* and *f* are .....



**b) Find the value of unknown angles in these diagrams .**

**Give reasons for your answer.**



*x* = .....

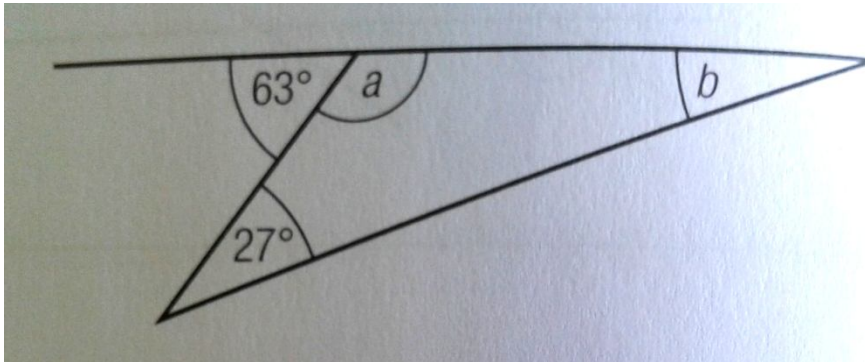
**Reason** .....

*y* = .....

**Reason** .....

*z* = .....

**Reason** .....



$a = \dots\dots\dots$

Reason .....

$b = \dots\dots\dots$

Reason .....

**6. Work out the following. Simplify your answers where possible.**

a)  $\frac{5}{7} + \frac{1}{3} = \dots\dots\dots$

b)  $3\frac{3}{8} - 2\frac{3}{4} = \dots\dots\dots$

c)  $24 \div \frac{12}{13} = \dots\dots\dots$

d)  $15 \times \frac{3}{8} = \dots\dots\dots$

**7. Expand the expressions.**

i)  $2a ( 2b + 3 ) = \dots\dots\dots$

ii)  $4b ( 6b - 2a ) = \dots\dots\dots$

**8. Solve the following equations. ( find value of variable)**

i)  $8d = 4d - 9$

ii)  $4( h + 1 ) = 12$