

tests and answers

Mathematics

Sixth grade primary

First Term

إرشادات هامة:

قبل المذاكرة:

راجع كل الدروس المطلوبة والدروس التي لم تفهمها ضعها على جانب وبعد مذاكرة جميع الدروس اسأل زملائك أو أستاذك بأمثلة الكتاب.

بعد المذاكرة:

اكتب من الدفتر تمارين (من كل درس تمرين) ، أو لا تكتب إذا كان عندك أوراق مراجعة فإذا كنت متأكد من مذاكرتك أختبر نفسك ، لتظهر النتيجة فإذا كانت أخطائك كثيرة فذاكر قبل الامتحان ، وإذا كان لم يكن عند أي خطأ أو عندك عدد قليل من الأخطاء فألق نظرة سريعة فقط على الكتاب.

وقت الامتحان:

- اقرأ السؤال أكثر من مرة بعد ذلك أجب عليه.
- لا تحاول الغش.
- إذا إنتهيت راجع جميع إجاباتك أكثر من مرة.

Model (1)

Q1 : Choose the correct answer :

(1) If the Ratio among the measures of angles of a triangle is 2 : 3 : 4 then the measure of its angles in the same order are

a) 20 , 30 , 40

b) 20 , 60 , 80

c) 40 , 80 , 60

d) 40 , 60 , 80

(2) If Hazem drinks 21 glasses of milk weekly then the rate of what the drinks daily is

a) 3 glasses

b) 7 glasses

c) 14 glasses

d) 20 glasses

(3) A metallic piece in the shape of a cube of edge length 40cm it's melted & converted to a cuboid whose base area = 2000 cm^2 then it's height =

a) 16 cm

b) 32 cm

c) 64 cm

d) 80cm

(4) On a map is drawn such that each 1 centimetre represents 5 km. then if the distance between two villages is $\frac{1}{2}$ km then the distance between them on this map in centimeter equals

a) 0.1

b) 0.4

c) 25

d) 10

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(5) A merchant sold his goods with profit 15% then the percentage of the selling price to the buying price equals

a) 15 %

b) 85 %

c) 115 %

d) 150 %

Q2 :

A manufacture of clothes produces 8000 pieces daily , if the ratio between what this manufacture produce from the childrens clothes to the adults clothes 2 : 3 Find the number of pieces for children's clothes produced in 3 days.

Q3 :

a) If $\frac{x-3}{2} = \frac{5}{3}$, find the value of x ?

b) If the feast festival , one of the shops mode a discount 15% for the price of a refrigerator which equal 1750 pounds. Find the price of the refrigerator after discount ?

Q4 :

If a quantity of sugar with volume 2700 cm^3 need to can in a box , show which of the following boxes is suitable ? and why?

a) A cuboid with dimensions 45 cm , 40 cm & 15 cm.

b) A cube the length of its inner dimension equals 30 cm .

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Q5 :

The following table shows the dates & the number of trips (in one of the bus stations for the governorates)

Dates	6 am	8 am	10 am	12 am	2 pm	Sum
Number of trips	30	41	40	16	13	140

Draw the frequency curve for this distribution, then answer the following

What is the number of trips before 10 am ?

a) What is the percentage of the number of trips from 10am till 12 am to the sum of trips?

Model Answer (1)

(1) 1st angle : 2nd angle : 3rd angle : sum

$$\frac{2}{3} : \frac{4}{9} = 180$$

$$1^{\text{st}} \text{ angle} = \frac{2 \times 180}{9} = 40^\circ$$

$$2^{\text{nd}} \text{ angle} = \frac{3 \times 180}{9} = 60^\circ$$

$$3^{\text{rd}} \text{ angle} = \frac{4 \times 180}{9} = 80^\circ$$

The angles are : 40° , 60° , 80°

2- The rate of what he drinks daily = $\frac{21 \text{ cups}}{7 \text{ days}} = 3 \text{ glasses / day}$

3- volume of cube = $40 \times 40 \times 40 = 64000 \text{ cm}^3$

$$\text{H of cuboid} = \frac{V}{B.A} = \frac{64000}{2000} = 32\text{cm.}$$

$$4-5 \text{ km} \times 100000 = 500000 \text{ cm}$$

$$D.L = \frac{\frac{1}{2} \times 1}{500000} = \frac{1 \times 100000}{1000000} \text{ km}$$

$$= \frac{1}{10} \text{ cm} = 0.1 \text{ cm}$$

D.L : R.L

1 : 500000

$$: \quad \frac{1}{2} \text{ km}$$

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Q5: B) The number of trips before 10 am = $30 + 41 = 71$ trips.

C) The percentage = $\frac{40}{140} \times 100 = 28.57 \%$

Sets	Center of the set	Frequency	Point
6 am	$\frac{6+8}{2} = 7$	30	(7 , 30)
8 am	$\frac{8+10}{2} = 9$	41	(9 , 41)
10 am	$\frac{10+12}{2} = 11$	40	(11 , 40)
12 am	$\frac{12+14}{2} = 13$	16	(13 , 16)
2 pm	$\frac{14+16}{2} = 15$	13	(15 , 13)

Draw by yourself

Model (2)

Q1 : Choose the correct answer :

a) If 100 gm of food give 300 calories , then the number of calories which are found in 30 gm of the same food equals

- a) 90 calories b) 100 calories
c) 900 calories d) 1000 calories

b) If the area of a face of a cube = 4cm^2 then its volume in cm^3 is

- a) 6 b) 8 c) 24 d) 64

c) A liquid is put in a glass basin in the form of a cube to be filled completely , if the capacity of the basin is one litre then the inner edge length of the basin in cm =

- a) 0.1 b) 1 c) 10 d) 100

d) The side length of a square = 3cm then the ratio between its side length and its perimeter equals

- a) 4 b) 3 c) $\frac{1}{4}$ d) $\frac{1}{3}$

e) The ratio between 12 kirat to $1\frac{1}{2}$ feddan equals

- a) 12 : 15 b) 4 : 1 c) 1 : 3 d) 3 : 1

f) The range of values 7 , 3 , 6 , 9 , 5 is

- a) 3 b) 4 c) 6 d) 12

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Q2 :

- a) A quantity of Honey of 2 liters is needed to be distributed into small bottle the capacity of each of them 40 cm^3 find the number of needed bottles ?
- b) An alloy is made of gold and copper , it's weight is 70 gm , the weight of copper in it is 7gm . find the percentage of the pure gold in it.

Q3 : A man sold his car after one year of using it with price L.E 52000 if its buying price was L.E 65000 find the percentage of his loss .

Q4 : A box in the shape of a cube in which the length of the inner edge is 36 cm . its's wanted to fill it with washing soap bars in the shape of a cube of edge length 9cm . How many bars can be put in this box .

Q5 : The following table shows the daily wages of 50 workers in a factory

Wages	10-	20-	30-	40-	50-	60-	70-80	Total
Number of workers	3	6	10	15	8	5	3	50

First : draw the frequency crive

Second : Find the percentage of the number of workers whose wages begins from L.E 30 to less than L.E 50

Model Answer (2)

(1) a)

Gm	100	30
calories	300	X ?

$$x = \frac{30 \times 300}{100} = 90 \text{ calories}$$

b) $E = \sqrt{FA} = \sqrt{4} = 2cm$

$$V = E \times E \times E = 2 \times 2 \times 2 = 8cm^3$$

c) 1 liter = $\times 100 = 100 \text{ cm}^3$ 11 liter = $\times 1000 = 1000 \text{ cm}^3$

$$V. \text{ of liquid} = 1000cm^3$$

$$E = \sqrt[3]{V} = \sqrt[3]{1000} = 10cm$$

d) $\frac{1}{4}$

e) 12 kirats : $1\frac{1}{2} \text{ feddons}$

$$12 \text{ kirats} : 36 \text{ kirats} \quad (\div 12)$$

$$1 : 3$$

f) Range = max value - min value = $9 - 3 = 6$

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Q2 : a) $2L = 2000 \text{ cm}^3$

Number of bottles = $\frac{2000}{40} = 50 \text{ bottles}$

b) The weight of the pure gold = $70 - 7 = 63 \text{ gm}$

The percentage of the pure gold = $\frac{63}{70} \times 100 = 90 \%$

Q3 : C.P : loss : s.p

100%	:	?	:	
65000	:	13000	:	52000

Percentage of loss = $\frac{100 \times 13000}{65000} = 20\%$

Q4: volume of cube = $36 \times 36 \times 36 = 46656 \text{ cm}^3$

Volume of soapbar = $9 \times 9 \times 9 = 729 \text{ cm}^3$

Number of soapbars = $\frac{46656}{729} = 64 \text{ soap bars}$

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Q5:

Sets	Center of the set	Frequency	Point
10 -	$\frac{10+20}{2} = 15$	3	(15, 3)
20 -	$\frac{20+30}{2} = 25$	6	(25, 6)
30 -	$\frac{30+40}{2} = 35$	10	(35, 10)
40 -	$\frac{40+50}{2} = 45$	15	(45, 15)
50 -	$\frac{50+60}{2} = 55$	8	(55, 8)
60 -	$\frac{60+70}{2} = 65$	5	(65, 5)
70-80	$\frac{70+80}{2} = 75$	3	(75, 3)

Draw by yourself

Second: The no of workers = $10 + 15 = 25$ workers

The percentage of workers = $\frac{25}{50} \times 100 = 50 \%$

Model (3)

Q1 : Choose the correct answer :

(1) If $\frac{a}{b} = \frac{c}{d}$ then which of the following statements is true ?

a) $a \times c = b \times d$

b) $\frac{a}{d} = \frac{c}{b}$

c) $\frac{a-3}{b-3} = \frac{c}{d}$

d) $a \times d = b \times c$

(2) If the sum of edges length of a cube is 144 cm then it's volume equals

.....

a) 1728 cm

b) 1728 cm^3

c) 144 cm^3

d) 144 cm

(3) At a moment , the length of the shade of a tree of height 3m was 180 cm , then same what is the length of the shade of another tree of height 2 m at the moment

a) 60 cm

b) 90 cm

c) 120 cm

d) 150cm

(4) A painter has 25 liters of paints. He uses 2.5 liter of paint per hour. If he finished his work after 5.5 hours. Then how many liters of paint are remained?

a) 10.25 litres

b) 11.25 litres

c) 12.75 litres

d) 13.75 litres

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(5) If the price of goods in clothes shop is 240 pounds. And its price during sale is 180 pounds then the discount percentage is.....

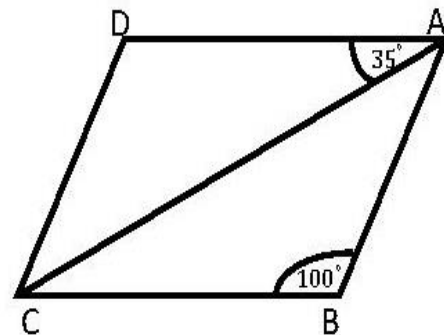
- a) 15% c) 20 % c) 25% d) 30%

Q2 :

- c) If the drawing scale for a map is 1 : 1000 and the length of a road equals 5km. what is the length of this road in the map?
- d) Three persons involved in a business. The first paid 60000 pounds, the second paid 80000 pounds & the third paid 90000 pounds at the end of the year the net profit was 20700 pounds calculate the share of each of them.

Q3 :

- a) In the opposite figure ABCD is a parallelogram , find m ($\angle ACD$) :



- b) If the percentage of success for a school equals 85% and the number of the students in this school equal 800 students. If the ratio between the number of boys and the number of girls equals 2 : 3 find the number of succeeded girls in this school ?

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Q4 :

A vessel in the shape of a cube whose edge length is 10.5 cm first :
Calculate the volume of this vessel in cm^3 second : How many mm^3 of water is the capacity of this cube ?

Q5 :

The following table represents the temperature degrees that expected for 30 cities.

a) Draw the frequency curve then answer the following:-

Temperature degree	24-	28-	32-	36-	40-	44-	Total
No. of cities	3	4	7	9	5	2	30

b) What is the number of cities whose temperature's are 40 degree and more ?

Model Answer (3)

1) $a \times d = b \times c$

2) $E = \frac{144}{12} = 12 \text{ cm}$

$V = 12 \times 12 \times 12 = 1728 \text{ cm}^3$

3) The shade = $\frac{180 \times 2}{3} = 120 \text{ cm}$

Height	3 m	2m
Shade	180 cm	×

4) after 5.5 hours he uses = $\frac{2.5 \times 5.5}{2} = 13.75 \text{ liters}$

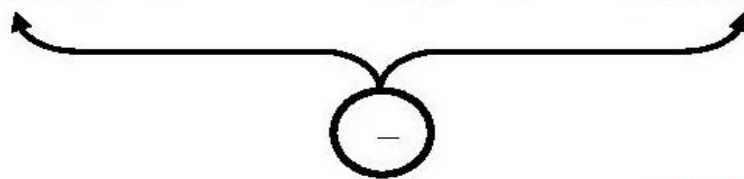
The paint remained = $25 - 13.75 = 11.25 \text{ liters}$

Liter	2.5	×
Hours	1	5.5

5) Befor discount : discount : after discount

100% : ? :

240 L.E : 60 : 180 L.E



Percentage of discount = $\frac{60 \times 100}{240} = 25\%$

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Q2: a) D.L = $\frac{1 \times 5}{1000} = \frac{1}{200} \times 100000 \text{ km} = 500 \text{ cm}$. D.L : R.L

1 : 1000

? : 5km

b)	1 st	:	2 nd	:	3 rd	
	60000	:	80000	:	90000	(÷ 10000)
	6	:	8	:	9	

1 st	:	2 nd	:	3 rd	:	sum
6	:	8	:	9	:	23

20700

- The share of 1st = $\frac{6 \times 20700}{23} = 5400 \text{ L.E}$

- The share of 1st = $\frac{8 \times 20700}{23} = 7200 \text{ L.E}$

- The share of 1st = $\frac{9 \times 20700}{23} = 8100 \text{ L.E}$

Q3:

a) $m(< D) = 100^\circ$

$$M(\angle ACD) = 180 - (100 + 35) = 45^\circ$$

b)	Boys	:	girl	:	sum
	2	:	3	:	5
		?	:		800

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The number of girls = $\frac{3 \times 800}{5} = 480$ girls

The number of succeeded girls = $480 \times \frac{85}{100} = 408$ girls

Q4: First: V of the vessel = $E \times E \times E = 10.5 \times 10.5 \times 10.5$
 $= 1157.625 \text{ cm}^3$

Second: $1157.625 \times 1000 \text{ cm}^3 = 1157625 \text{ mm}^3$

Q5: b) The number of cities = $5 + 2 = 7$ cities

Q5: a)

Sets	Center of the set	Frequency	Point
24 -	$\frac{24+28}{2} = 26$	3	(26 , 3)
28 -	$\frac{28+32}{2} = 30$	4	(30 , 4)
32 -	$\frac{32+36}{2} = 34$	7	(34 , 7)
36 -	$\frac{36+40}{2} = 38$	9	(38 , 9)
40 -	$\frac{40+44}{2} = 42$	5	(42 , 5)
44 -	$\frac{44+48}{2} = 46$	2	(46 , 2)

Draw by yourself

Model (4)

1-Complete:

- a) 5 Kg : 3000 gm = :
- b) $1.45 \text{ L} + 0.5 \text{ dm}^3 + 50 \text{ cm}^3 = \text{..... L}$
- c) If $A:B = 2:3$, $B:C = 6:7$ then $A:C = \text{.....} : \text{.....}$
- d) A cuboid with a square base of side length 6 cm and height 10 cm then it's volume is
- e) $\frac{9}{20} = \text{.....} \%$

2- Choose the correct answer:

a) $\frac{2}{3} : 3\frac{1}{3} = \text{.....}$

a-1:2

b-2:5

c-1:10

d-1:5

b) The diagonals are perpendicular in,

a- square , rectangle

b- rhombus , rectangle

c- square , rhombus

d- parallelogram , rectangle

c) If $\frac{a}{b} = \frac{c}{d}$ so which of the following is true

a- $a \times c = b \times d$

b- $a \times d = b \times c$

c- $a \times b = c \times d$

d- $d \times c = b \times a$

d) A plough for agricultural land ploughs 15 feddens in 10 hours then the rate of this plough = Feddens/h

a- $\frac{2}{3}$

b- $\frac{3}{2}$

c- $\frac{5}{2}$

d- $\frac{5}{3}$

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e) A cube the sum of all edges 144 cm then its volume equal...

- a- 1728 cm b-1728 cm^3 c-144 cm^3 d- 144 cm^2

3- a) If the distance between two cities is 180 km with a drawing scale 1 : 9000000 ,find the distance between them on the map

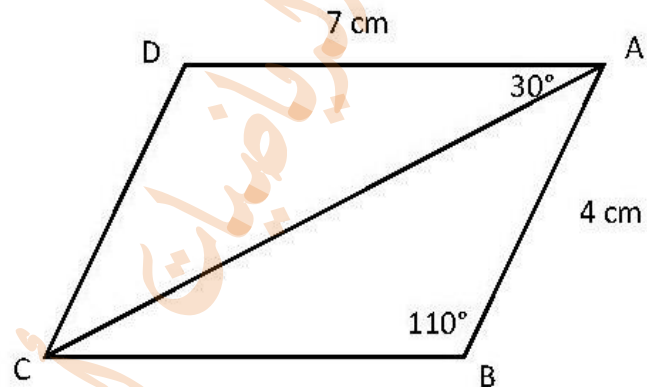
b) A car consumes 20 liters of benzene to cover 180 km , how many liters of benzene does the car consume to cover 540 km

4- a) in the opposite figure ABCD is a parallelogram in which

$$m(\angle B) = 110^\circ$$

$$m(\angle DAC) = 30^\circ$$

$$AB = 4\text{ cm}, AD = 7\text{ cm}$$



Find , a) $m(\angle D)$, b) $m(\angle BAC)$

c) $m(\angle ACD)$

d) The perimeter of parallelogram

b) A sum of money is distributed between two persons in the ratio 3 : 5 ,if the share of the second exceeds the share of first by L.E 30 ,Find the share of each one

5- a) A company for electrical appliance displays the T.V set for 1062 pounds if the company sold with profit percentage is 14% , find the cost price for the T.V set

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Model answer 4

1.comple:

a) $5000 : 3000 \div 1000$ ($5 \text{ kg} \times 1000 = 5000 \text{ gm}$)

$5 : 3$

b) $1.45 \text{ L} + 0.5 \text{ dm}^3 + 0.05 \text{ L} = 2 \text{ L}$ ($50 \text{ cm}^3 \div 1000 = 0.05 \text{ L}$)

c)

$A : B : C$

$2 : 3 : 3$

$6 : 6 : 7$

$12 : 18 : 21 \div 3$

$4 : 6 : 7$

$a : c = 4 : 7$

d) volume of cuboid = $s \times s \times h = 6 \times 6 \times 10 = 360 \text{ cm}^3$ $L = W = s$

e) $(\frac{9}{20} \times 100)\% = 45\%$

2.choose:

a) $\frac{2}{3} : \frac{10}{3}$

$6 : 30$

$1 : 5$

b) Square and rhombus

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c) $a \times d = c \times b$

d) The rate = $15 \div 10 = \frac{3}{2}$ feddan /hr

$$E = \frac{\text{sum of edges}}{12} = \frac{144}{12} = 12 \text{ cm}$$

$$V = E \times E \times E = 12 \times 12 \times 12 = 1728 \text{ cm}^3$$

Q3.a. D.L : R.L

$$1 : 9\,000\,000$$

$$X : 180$$

$$X = \frac{180 \times 1}{9\,000\,000} = \frac{1}{50\,000} \text{ km} \times 100\,000 = 2 \text{ cm}$$

b)

$$X = \frac{540 \times 20}{180} = 60 \text{ L}$$

Liter	20	X
Km.	180	540

Q4.a.

a) $m(\angle D) = 110^\circ$ (opposite angles)

b) $m(\angle BAC) = 180 - (110 + 30) = 40^\circ$ (consecutive angles)

c) $m(\angle ACD) = 180 - (110 + 30) = 40^\circ$

d) The perimeter = $(L + W) \times 2 = (7 + 4) \times 2 = 22 \text{ cm}$

b) $P_1 : P_2$: difference

$$3 : 5 : 2$$

$$\underline{\quad} : \underline{\quad} : 30$$

$$P_1 = \frac{30 \times 3}{2} = 45 \text{ L.E} , \quad P_2 = \frac{30 \times 5}{2} = 75 \text{ L.E}$$

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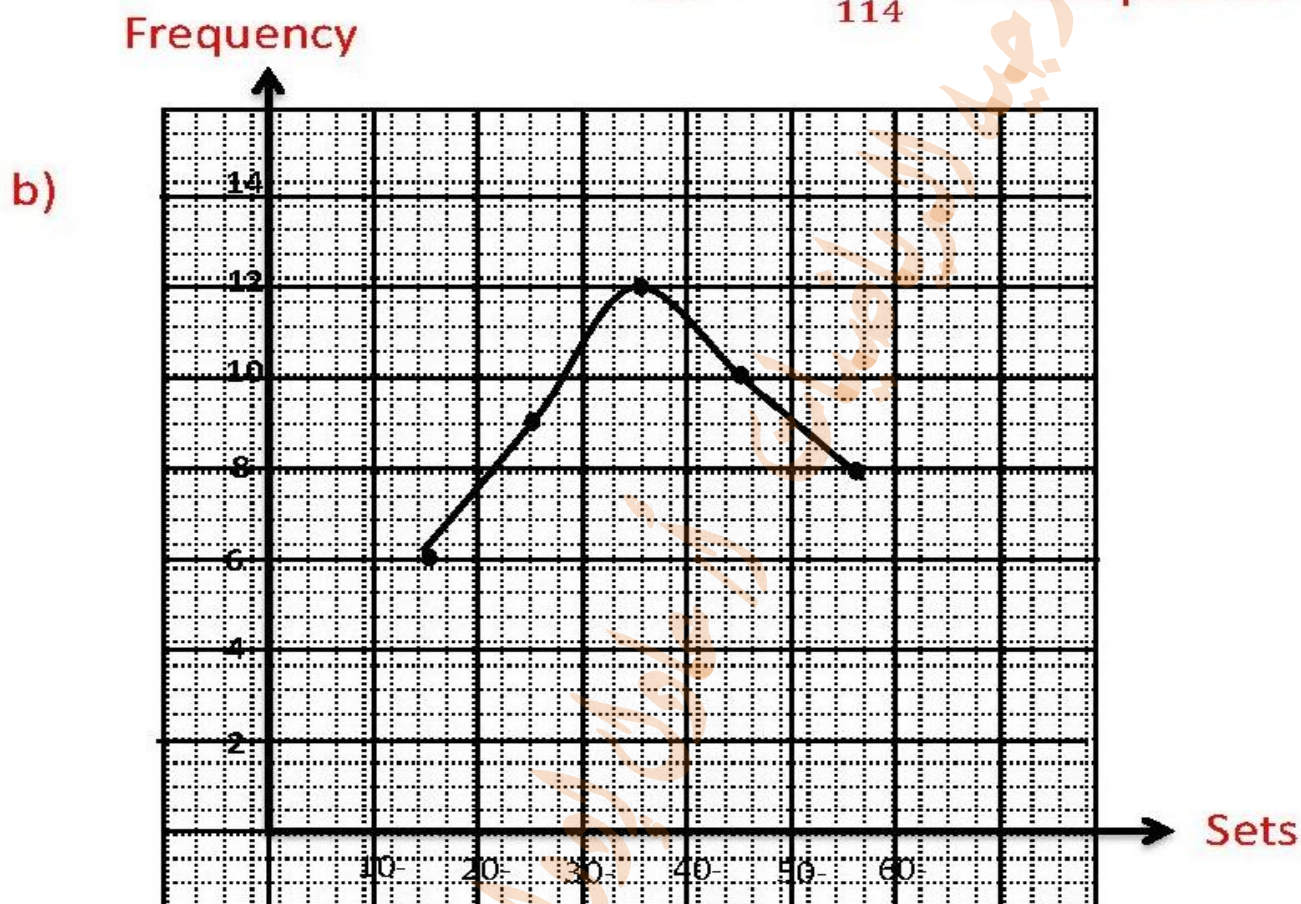
Q5.a)

C.P : Profit : S.P

100% : 14% : 114%

— : — : 1026

$$\text{C.P} = \frac{1026 \times 100}{114} = 900 \text{ pounds}$$



The number of visitors = $6+9+12=27$ visitor

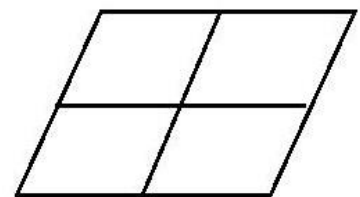
Model (5)

1- Complete:

- a) The ratio between the perimeter of the rhombus and its side length =
..... :
- b) 18 Kirats : 2 feddans = :
- c) $1500 \text{ cm}^3 = \dots\dots\dots$ Liters
- d) The range of the values 7 , 15 , 24 , 11 , 3 and 18 is
- e) The diagonals are equal in and

2- Choose the correct answer:

- a) If the ratio among the measurement of the angles is 1 : 2 : 3 then the
measure for the smallest angle equal
(10° - 30° - 45° - 60°)
- b) If $a:b = 2:5$ then $\frac{a}{a+b} = \dots\dots\dots$ ($2:5$ - $2:7$ - $3:7$ - $7:2$)
- c) In the opposite figure, The number of
parallelograms which can be obtained is
(4 - 5 - 7 - 9)
- d) The following data are descriptive except :
(Favorite color – birthday – age – blood type)
- e) If the length in drawing is 2 cm ,and the real length is 6 cm .then the
drawing length is : ($1:3$ - $1:30$ - $1:300$ - $1:300000$)



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- 3- a) A metallic cube of edge length 12 cm ,its wanted to melted and convert it into ingots in the shape of cuboids each of them has the dimensions 3 cm , 4 cm ,6 cm calculate the number of ingots that are obtained
- b) Three merchants the profit of first 42% the profit of the second is 28% the profit of the third 36000 pounds what is the total profit in pounds?
- 4- a) The ratio between the length and the width of rectangle is 7:4 ,If the perimeter of the rectangle is 44 cm .Find out the length and the width of the rectangle and then calculate the area
- b) A tractor ploughs 6 feddans within 3 hours find the rate of work of this tractor , if another tractor ploughs 6 kirats in 10 minutes ,which of them is better
- 5-a) Three persons formed a company the share of first is $\frac{5}{3}$ the share of The second ,and the share of second $\frac{4}{3}$ the share of third ,If the share of first exceeds the share of the third by 8250 pounds find the share of each
- b) To help the poor people ,a group of students donated amounts of money in pounds shown in the following table .

Money in pounds	3-	5-	7-	9-	11-	Total
Number of students	7	10	15	10	8	50

- a) Draw the frequency curve for the distribution
- b) what is the number of students that donated 7 pounds or more?

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Model answer 5

Q1. Complete:

- a) 4 : 1
- b) 18 kirat : 48 kirat $\div 3$ (2feddan x 24 = 48 kirats)
- 6 : 16 $\div 2$
- 3 : 8
- c) $1500 \text{ cm}^3 \div 1000 = 1.5 \text{ L}$
- d) The greatest number = 24 , the smallest number = 3
- Range = greatest – smallest = $24 - 3 = 21$
- e) Squar – rectangle

Q2.choose :

- a) $A_1 : A_2 : A_3 : \text{Sum}$
- | | | | |
|---|-----|-----|-------|
| 1 | : 2 | : 3 | : 6 |
| - | : - | : - | : 180 |

$$A_1 = \frac{180 \times 1}{6} = 30^\circ, \quad A_2 = \frac{180 \times 2}{6} = 60^\circ$$

$$A_3 = \frac{180 \times 3}{6} = 90^\circ, \text{ then the smallest angle is } 30^\circ$$

- b) $A : b = 2 : 5$ then $\frac{2}{2+5} = 2 : 7$

- c) 7×9

- d) Age

- e) D.L : R.L

$2\text{cm} : 6\text{m}$

(6m x 100 = 600 cm)

$$2 : 600 \div 2$$

1 : 300

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Q3.a volume of cube = $E \times E \times E = 12 \times 12 \times 12 = 1728 \text{ cm}^3$

Volume of ingots = $L \times W \times H = 3 \times 4 \times 6 = 72 \text{ cm}^3$

The number of ingots = $\frac{\text{big volume}}{\text{small volume}} = \frac{1728}{72} = 24$ ingots

Q3.b) $1^{\text{st}} : 2^{\text{nd}} : 3^{\text{rd}} : \text{sum}$

$42\% : 28\% : - : 100\%$

$- : - : 36000 : -$

The profit of the $3^{\text{rd}} = 100\% - (42\% + 28\%) = 30\%$

The total profit = $\frac{36000 \times 100}{30} = 120\,000$ pounds

Q4.a) $L : W : \text{Perimeter}$

$7 : 4 : 22$ $(4 + 7) \times 2 = 22 \text{ cm}$

$- : - : 44$

$L = \frac{44 \times 7}{22} = 14 \text{ m}$, $W = \frac{44 \times 4}{22} = 8 \text{ m}$, Area = $L \times W = 14 \times 8 = 112 \text{ m}^2$

Q4.b) $6 \text{ feddan} \times 24 = 144 \text{ kirats}$, $3 \text{ hours} \times 60 = 180 \text{ min.}$

First tractor = $144 \div 180 = 0.8 \text{ kirats / min.}$

Second tractor = $6 \div 10 = 0.6 \text{ kirats / min.}$

The first tractor is the better

Q5.a) $1^{\text{st}} : 2^{\text{nd}} : 3^{\text{rd}} : \text{difference}$

$5 : 3 : -$

$4 : 4 : 3$

$20 : 12 : 9$

$- : - : -$ 8250

$20 : 12 : 9$

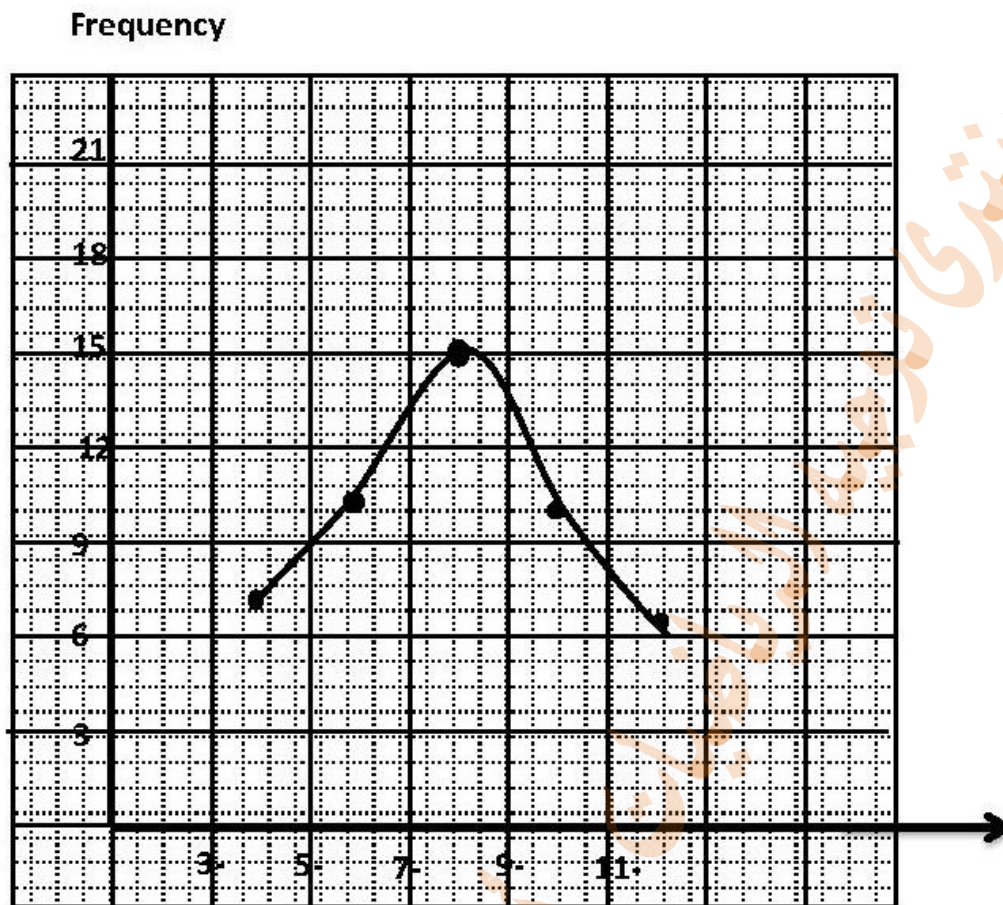
$1^{\text{st}} = \frac{20 \times 8250}{11} = 15000 \text{ pounds}$

$2^{\text{nd}} = \frac{12 \times 8250}{11} = 9000 \text{ pounds}$

$3^{\text{rd}} = \frac{9 \times 8250}{11} = 6750 \text{ pounds}$

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Q5.b)



Number of students = $15 + 10 + 8 = 33$ student

Model (6)

1- Complete:

- a) The rectangle is a parallelogram with
- b) If $a:b = 2:3$, $b:c = 3:5$ then $a:c = \dots : \dots$
- c) The ratio between the circumference of the circle and its diameter = ...
- d) If $\frac{x+12}{6} = 4$ then $X = \dots$
- e) If the length in drawing is 2.5 cm and the real length is 1.6 m then the drawing scale is :
- f) If the volume of a cuboid = 100 cm^3 and its base area = 100 cm^2 then its height =

2- Choose the correct answer:

- a) If one of the angles of the parallelogram is right and two of its adjacent sides are equal in length ,then it is called
(Rhombus – square – rectangle – triangle)
- b) If the numbers 4 , X , 12 , 18 are proportional, then the value of $X = \dots$
(2 – 3 – 6 – 45)
- c) A cube with volume 125 cm^3 ,then its base area is
(25 cm^2 - 25 cm – 5 cm^2 - 5 cm)
- d) A plough for agricultural land plough 14 feddans within 3.5 hours ,then the rate of this plough = feddans / hour
($\frac{1}{2}$ - 4 – 8 – 49)
- e) Rectangle it's length 6 cm and area 24 cm^2 then the ratio between the perimeter and its length is :
(4:1 – 10:3 – 12:5 – 3:2)

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3- a) If the ratio among the prices of three electrical sets (TV – oven – fridge) is 4:5:8 and the price of the TV st is L.E 1200 calculate the price of the oven and the fridge

b) A cube –shaped vessel ,of inner edge length 20 cm was filled of honey, Find :

a- Its capacity

b- If the price of one liter is L.E 8 find the price of honey

4- a) The height of a minaret is 22m and the length of its shadow in a moment equals 6 m , whats the height of a house infront of this minaret if the length of its shadow equal 3 m in the same moment

b) A car dealer bough a car for 45000 pounds and spent 5000 pounds to repair it , then he sold it for profit 10% ,Find the selling price

5- a) A glass vessel is cuboid shape its inner edge length is 30 cm this vessel contain an amount of water ,if we throw a metallic piece in it then the water level raised 5 cm because of that find the volume of metallic piece

b) In the opposite figure :

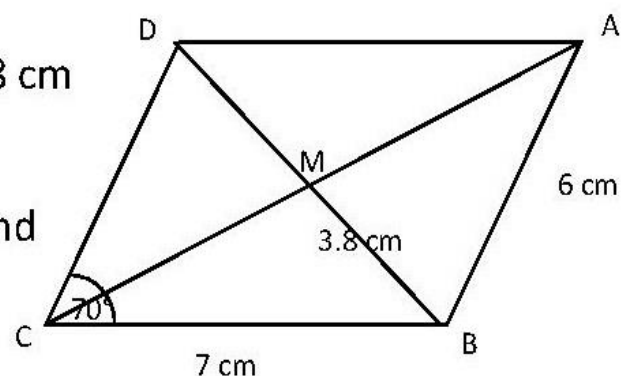
ABCD is a parallelogram AB=7 cm , BM 3.8 cm

BC= 7cm and $m(\angle BCD)=70^\circ$

Without using geometrical instruments find

a- $m(\angle ADC)$

b- The perimeter of the triangle BCD



6-a) A picture of habitation edifices is taken with a drawing scale 1:100000 , If the real distance between two cities is 36 km find the distance between them on the map

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b) The following table shows the numbers of hours which are spent by 60 pupils to study their lessons daily :-

Number of hours	1-	2-	3-	4-	5-6	Total
Number of pupils	9	13	18	12	8	60

a- Represent this data by the frequency curve

b- what is the percentage of the greatest number of pupils to study their lessons daily

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Model answer 6

Q1 complete:

a) right angle

b) $A : b : c$

$$\begin{array}{ccc} 2 & : & 3 \\ 3 & : & 3 \end{array} \rightarrow \begin{array}{ccc} 2 & : & 3 \\ 3 & : & 5 \end{array}$$

$$6 : 9 : 15 (\div 3)$$

$$\longrightarrow a : c =$$

$$2 : 3 : 5$$

$$a : c = 2 : 5$$

c) $\pi : 1$

$$d) X + 12 = 4 \times 6 = 24$$

$$X = 24 - 12 = 12$$

e) D.L : R.L

$$2.5 \text{ cm} : 1.6 \text{ m} \quad (1.6 \text{ m} \times 100 = 160 \text{ cm})$$

$$2.5 : 160 \quad (\times 10)$$

$$25 : 1600 \quad (\div 25)$$

$$1 : 64$$

$$f) \text{ Height} = \frac{\text{volume}}{B A} = \frac{1000}{100} = 10 \text{ cm}$$

Q2.choose:

a) Square

$$b) \frac{4}{x} = \frac{12}{18}$$

$$X = \frac{4 \times 18}{12} = 6$$

$$c) E = \sqrt[3]{V} = \sqrt[3]{125} = 5 \text{ cm}$$

$$B A = E \times E = 5 \times 5 = 25 \text{ cm}^2$$

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d) The rate = $14 \div 3.5 = 4$ feddan /hr

e) $W = A \div L = 24 \div 6 = 4\text{cm}$

$$P. = (L + W) \times 2 = (4 + 6) \times 2 = 20 \text{ cm}$$

P : L

$$20 : 6 \quad (\div 2)$$

10: 3

Q3.a) T.v : oven : fridge

$$4 : 5 : 8$$

1200 : : :

the price of oven = $\frac{5 \times 1200}{4} = 1500$ pounds

the price of fridge = $\frac{8 \times 1200}{4} = 2400$ pounds

Q3.b)

a) Capacity = $20 \times 20 \times 20 = 8000 \text{ cm}^3 \div 1000 = 8 \text{ Litre}$

b) The price of honey = $8 \times 8 = 64$ pounds

Q4.a)

$$X = \frac{3 \times 22}{6} = 11 \text{ m}$$

Height	22 m	X
shadow	6 m	3 m

Q4.b) c.p = 45 000 + 5 000 = 50 000 pounds

c.p : profit : s.p

100 : 10 : 110

50 000 : : X

$$\text{s.p} = \frac{110 \times 50\,000}{100} = 55\,000 \text{ pounds}$$

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Q5.a) volume of the metallic piece = $30 \times 30 \times 5 = 4500 \text{ cm}^3$

Q5.b)

a) $M(<ADC) = 180 - 70 = 110^\circ$

b) Perimeter = $7 + 6 + 3.8 + 3.8 = 20.6 \text{ cm}$

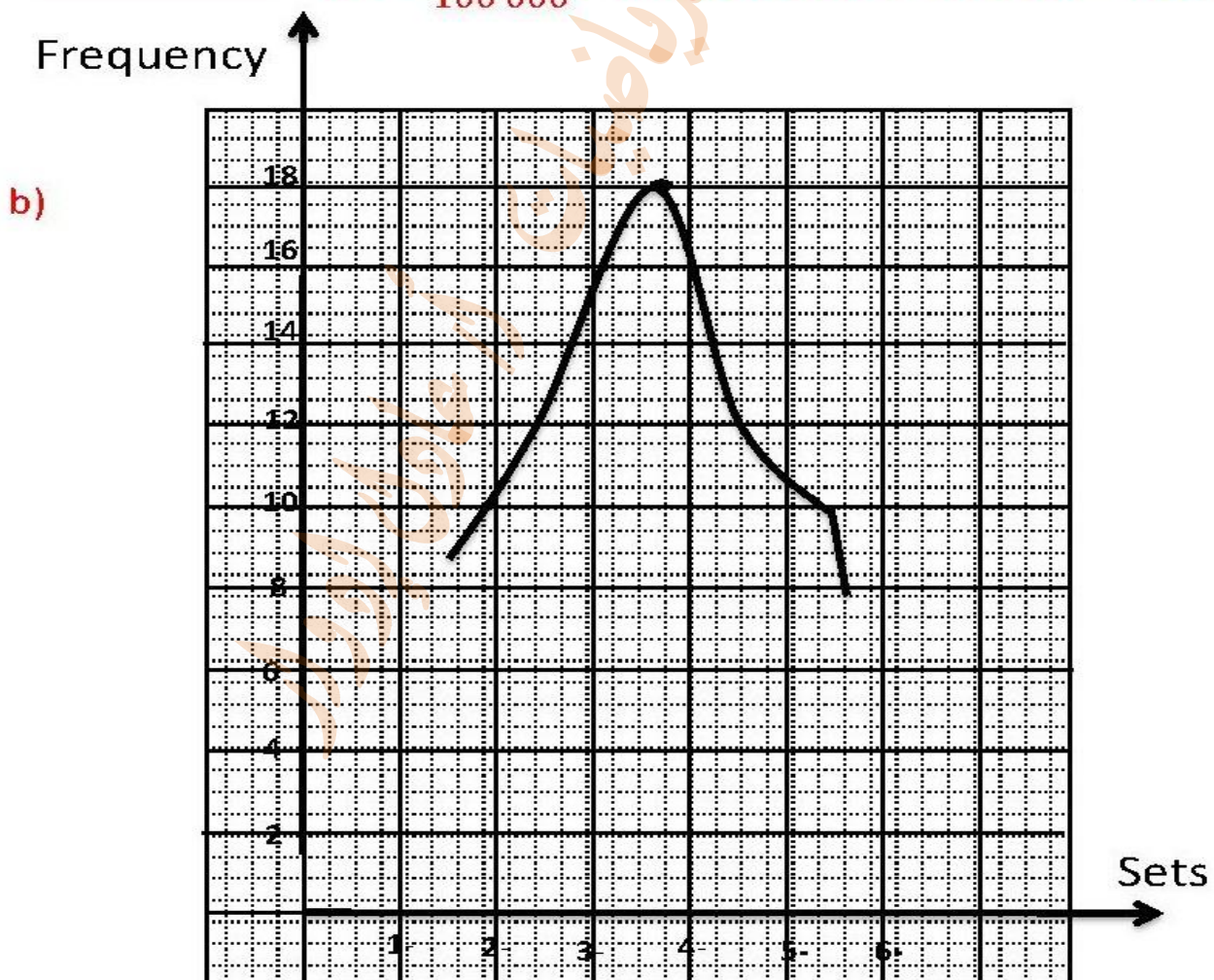
Q6.a)

D.L : R.L

1 : 100 000

— : 36

$$\text{D.L} = \frac{36 \times 1}{100\,000} = 0.00036 \text{ km} \times 100\,000 = 36 \text{ cm}$$



The percentage = $\frac{18}{60} \times 100 = 30\%$

Good Luck