Target Booklet B

Functional Skills Level 1

QUESTIONS TO PRACTICE YOUR TARGETS

Name:

Tutor:

Contents

All exam questions are taken from Pearson Edexcel past and practice papers.

Targets

Source	Targets	Evidence Or Page numbers	Complete date

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Place value

1) Write down the value of the 6 in the number 13629 (1)

2) Write down the value of 2 in the number 328407 (1)

3) Write down the place value of 7 in the number 447,890 (1)

4) There are 59,182 fans at a football match.

Write down the place value of the 5 in the number above. (1)

5) Here are four digits.

9 4 7 5

a) Use two of these digits to make the largest possible two-digit number. (1)

b) Use all four of these digits to make the four-digit number closest to 5000. (1)

6) Write the number 1906 in words (1)

7) Write the number twenty thousand, three hundred and twenty nine in figures (1)

8) Arrange these numbers in order of size, starting with the smallest (2)

One billion

Half a million

Six hundred and ten thousand

Ninety seven thousand

Two million

9) Write down the value of the 2 in the number 2 983 154 (1)

10) Write the place value of 9 in the number 1906 (1)

11) Write the number forty thousand, and fifteen in figures (1)

Four rules

1) Work out the following. Show your working:

a) 1687 + 4961 b) 5907 +3448 c) 1969 + 758 d) 402 + 2389

e) 3110 – 1298 f) 1905 - 768 g) 900 -109 h) 717 -171

2) Work out the remainder for each of the following divisions. Show your working:

a) 3326 ÷ 7 b) 7376 ÷ 3 c) 2356 ÷ 6 d) 8232 ÷ 8

e) 4000 ÷ 12 f) 4522 ÷ 15 g) 3727 ÷ 16 h) 3283 ÷11

3) Complete the sums below. Show your working:

a) 63 x 51= b) 88 x 51= c) 25 x 35= d) 61 x 83 =

e) 743 x 68= f) 457 x 52= g) 486 x 76= h) 454 x 72=

4) Work out 3400 ÷ 1000 (1)

5) Mick is starting a course at college.

In the first week he will go to college Monday to Friday.

Mick has a total of £12 to spend on lunch this week.

He wants to spend £2.35 each day on lunch.

Can Mick afford to spend £2.35 on lunch each day in this week? (2)

Show your working:

6) Donna is raising money to build a new village hall.

People can have their name printed on a brick for the hall.

Each person pays £28 for a brick with their name on it.

Donna hopes to raise £12000 by selling bricks.

She thinks she will need to sell 420 bricks to reach her target of £12000.

Are 420 bricks enough to reach her target? (3)

Show your working.

BIDMAS

$6+42\div2-15$ =	$36-10x2\div5-11$ =
$25x2-42\div6+18$ =	$3+32\div8-9$ =
$8+9-2x3$ =	$4-6x2\div2+2$ =
$12\div2x6+4-3$ =	$63\div7x3-4$ =
$4+8-5x6$ =	$5+36\div2x3-4$ =
$3(2x4)$ =	10^2-5x2 =
$2+3^2x4$ =	$4(12-3^2)$ =
$5(2+3)^2$ =	$(8-4)x3^2$ =
$22-2(3^2+2)$ =	$5x6-5^2x2$ =

Notes

Negative Numbers

1) Complete the following

− 3 +9=	8+− 4=	− 1+1=
3+− 1=	3+7=	− 6+− 7=
− 5+1=	− 1+2=	− 3+9=
− 9− 4=	− 5+6=	8+ − 9=
− 4+− 9=`	3+− 2=	4+ − 5=
− 1+7=	− 8+ − 9=	− 7+7=
− 1− 1=	− 2− − 5=	− 6 − − 9=
− 3+5=	− 9 − − 8=	6+ − 7=
− 2+− 6=	− 1 − − 2=	− 5+− 7=
− 5− − 8=	− 9 +-8=	−3 + − 6=

2) Complete the following

−3 x 9=	8 ÷ −4=	−1÷1=
3 x−1=	−3x−7=	−6x−7=
−5x1=	−11 x2=	−9 ÷ −3=
−9 x −4=	−5x 6=	8x −9=
−54÷ −9=`	32 ÷ −2=	4x−5=
−10x 7=	−8 x−9=	−7x7=
−1x1=	−2x −5=	−18÷ −9=
−3x5=	−96÷ −8=	6x−7=
−2x−6=	−12 ÷ −2=	−35÷ −7=
−56÷ −8=	−9 x−8=	−3 x 6=

1) Cheryl had £43 in the bank. She spent £65 on shoes. By how much is she overdrawn? Show your working.

2) At 6am, the temperature in Eastbourne was -2°C. By 2pm, it had risen by 19°C. What was the temperature in Eastbourne now? Show your working.

3) How much debt would Chris be in if he spent £235 but only have £128 in the bank? Show your working.

4) If it is -26°C in Canada and 34°C in Australia, what is the difference in temperature? Show your working.

5) Karis is given £80 for her birthday. She bought a pair of shoes for £59 and a pair of jeans for £43. How much debt is she in? Show your working.

6) Claudia's house had a temperature of 12°C. She put the heating on and the temperature rose by 8 °C. As she was still cold, Claudia decided to light a fire, which increased the temperature by a further 13°C. What was the temperature in the house now? Show your working.

7) Mr and Mrs Smith had £367 in their bank account. At the end of the month, they had to pay three bills. Their telephone bill was £96, their gas bill was £203 and their electricity bill was £145. How much would Mr and Mrs Smith need to pay into their account to clear their overdraft? Show your working.

8) At 4pm, the temperature in Sydney, Australia was 28°C. By 2am, it had dropped by 15°C, but by 10am the following morning it had risen by 11°C. What is the temperature in Sydney now? Show your working.

9) Omary was £56 overdrawn. He had to spend £234 on his car. What is the total of his debt now? Show your working.

10) Tasha made a cup of tea with a temperature of 90°C. She left it to cool, but forgot about it for 20 minutes, which meant that its temperature dropped by 74°C. She decided to reheat her tea in the microwave, which increased its temperature by 58°C, and then she drank it. How hot was her tea at the point of drinking? Show your working.

Rounding and Estimating

Round these numbers to the nearest 10	Round these numbers to the nearest 100	Round these numbers to the nearest 1000
a) 3	b) 78	c) 347
d) 26	e) 223	f) 789
g) 62	h) 549	i) 3499
j) 75	k) 35	l) 5692
m) 231	n) 1257	o) 12,340

1) Round 3,541 to the nearest 10 (1)

2) Round 3,541 to the nearest 100 (1)

3) Round 3,541 to the nearest 1000 (1)

4) Write the number 1906 to the nearest ten (1)

5) Write the number 38 627 to the nearest thousand (1)

6) Rashid works at an animal centre.
The animal centre sells tickets for 49 weeks of the year.
A students ticket costs £9.90
The Animal centre sold 23 student tickets last week.
Rashid assumes that the same number of student tickets are sold each week.
He wants to estimate the income from the sales of student tickets for the year.
Estimate the income from the sales of student tickets for the year.

Show your working and write your answer in the box below. (3)

7) At a music festival 23,468 tickets are sold for the first day.
24,784 are sold on the second day.
Estimate the total number of tickets sold in total.

Show your working and write your answer in the box below. (3)

8) a) Calculate 28 x 42 (2)

Show your working and write your answer in the box below.

b) Use **Estimation** to check your answer to question (1)

Show your working and write your answer in the box below.

9) a) Calculate 546 ÷ 6 (2)

Show your working and write your answer in the box below.

a) Use **Estimation** to check your answer to question

Show your working and write your answer in the box below. (1)

10) Kim takes her car to the garage.

This is a list of work she has done on her car.

- Service £134
- Tyres £279.96
- Battery £ 84.50
- MOT £ 37

Kim wants to have a rough idea how much this will cost.
Estimate the total price of work done.

Show your working and write your answer in the box below. (3)

11) A wall has an area of 123m^2
A tin of paint will cover 14m^2 of wall.
Gen needs to work out how many tins of paint she will need to buy.

Use estimation to work out how many tins she needs. (3)

12) Jess sold 378 handbags for £58 each.
She paid £32 each for them.
Use estimation to work out how much profit she made.
You must show your working out. (3)

13) A farmer bought 3179kg of seeds at a cost of £17 per kilogram.

Use estimation to work out the total cost of the seeds. (3)

14) A machine operator makes 74 bolts every hour.
She works 39 hours per week for 48 weeks of the year.
She will get a bonus if she makes more than 130,000 bolts in a year.

Use estimation to work out if she will receive a bonus this year.
You must show your working out. (3)

15) Aaron is building a brick wall.

The wall will need 1025 bricks.

The weight of each brick is 2.89kg.

Aaron will pay a delivery charge if the total of bricks is over 2500kg.

Use estimation to work out if you think Aaron will need to pay the delivery charge.

You must show your working out. (3)

16) A shop sells T-shirts at £36 each and scarves at £21 each.

Melinda buys 12 T-shirts and 12 scarves.

Use estimation to work out how much Melinda will need to pay.

You must show your working out. (3)

Decimals

Complete the sums below. Show your working:

a) 16.87 + 496.1 b) 5.907 +34.48 c) 19.69 + 0.758 d) 40.2 + 2.389

e) 3004 – 1298 f) 1105 - 768 g) 900 -109 h) 7107 -1071

Complete the sums below. Show your working:

a) 6.3 x 5= b) 8.8 x 7= c) 0.25 x 9= d) 61.4 x 8 =

e) 1.84 x 6.3 f) 45.9 x 2.5 g) 16.4 x 8.2 h) 34.7 x 23.5

Complete the sums below. Show your working:

a) 3326 ÷ 7

b) 7376 ÷ 3

c) 2356 ÷ 6

d) 8232 ÷ 8

e) 44.5 ÷ 5

f) 45.22 ÷ 8

g) 67.27 ÷ 3

h) 32.83 ÷9

i) 45 ÷ 0.6

j) 506 ÷ 1.2

k) 546 ÷ 0.8

l) 582 ÷ 0.11

1) Michael wants to buy a new car.

He needs to pay

- A cash deposit of £5875
- £229.20 each month for 24 months.

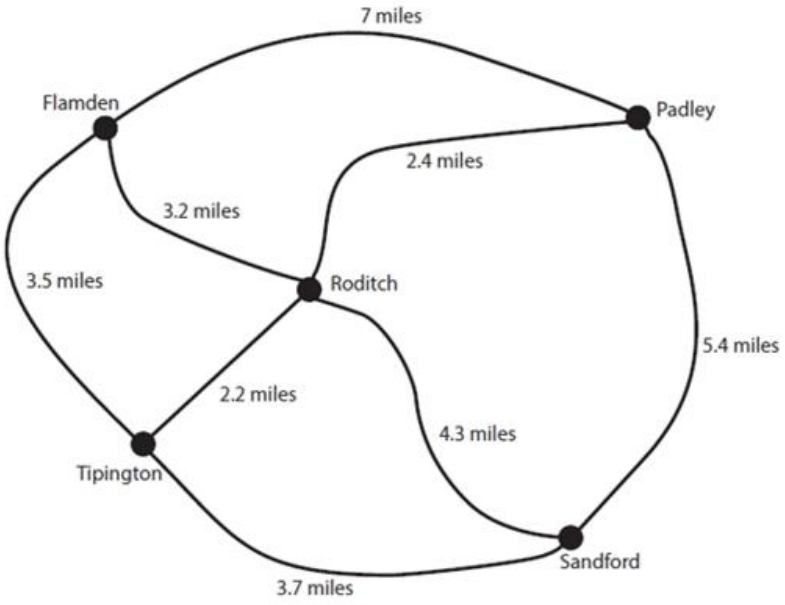
(a) Work out the total amount Michael will pay.

Show your working. (3)

2) Gordon runs an ironing service.

Gordon collects and returns ironing from customers.

He uses this sketch to help plan his route.



Gordon needs to

- Drive in and out of Roditch to collect ironing from customers
- Collect ironing from the hotel in Padley
- Deliver ironing to a restaurant in Tipington
- Go to Flamden to buy supplies.

Gordon will start and finish at home in Roditch

He wants to find the shortest route.

Plan a route for Gordon.

Show the total distance of this route. (4)

3) Lisa wants to make her home safer.

She finds a first aid kit for £17.74.

Lisa thinks it may be cheaper to make a kit up herself.

She finds these prices of items to go in a kit.

Kit Items	
Plastic box	£5.94
Plasters	£2.29
Bandages	£7.95
Gloves	80p
Wipes	55p

a) How much money will Lisa save if she makes the first aid kit?

Use the space below to show clearly how you get your answer.

(3)

4) Four apprentices want to raise £200 for charity.

Three of the apprentices raise these amounts.

Name	Amount raised
Harry	£40.60
Leanne	£81.70
Sanjay	£32.50

Sean is going to run around the playing field.

He is going to get £5.70 for each lap.

Sean thinks he needs to run 8 laps to raise the rest of the money.

Is Sean correct?

Show why you think this. You must show a check of your working.

Use the space below to show clearly how you get your answer.

(5)

5) Reece goes to see a film at the cinema.

He wants to buy a large drink and a large popcorn.

Reece sees this price list and a special offer.

Price list

	small	medium	large
drink	£1.99	£2.99	£3.99
popcorn	£2.49	£3.49	£4.49

Special offer!

Get a large drink and a large popcorn for £7.50

(a) How much will Reece save using the special offer to buy his large drink and large popcorn?

Use the space below to show clearly how you get your answer. (3)

6) Liz wants to feed the birds in her garden.

She wants to buy 2 bird feeders and 3 bags of bird seed.

Each bird feeder costs £6.95

A bag of bird seed costs £3.10

(a) Work out the total cost for Liz.

Use the space below to show clearly how you get your answer. (4)

7) Liz and her family want to join a bird club for a year.

Liz and her husband are adults.

Andy is their only child.

They want to choose the cheapest membership deal for their family.

Bird Club Membership	
Adult	£4 per month
Child	£3 per month

Bird Club Family Membership
1 or 2 adults + up to 3 children
£126 per year

Which membership should they choose?

Use the space below to show clearly how you get your answer. (3)

Rounding Decimals

Round these numbers to the nearest whole number

a) 3.94 →
b) 12.14 →
c) 23.2 →
d) 15.26 →
e) 14.52 →
f) 12.38 →
g) 90.82 →
h) 24.59 →
i) 63.08 →
j) 29.51 →
k) 38.74 →
l) 118.4 →

Round these numbers to 1 decimal place

a) 4.83 →
b) 1.94 →
c) 15.28 →
d) 19.31 →
e) 3.97 →
f) 0.74 →
g) 7.016 →
h) 19.372 →
i) 90.024 →
j) 83.23 →
k)9.567 →
l) 0.417 →

Round these numbers to 2 decimal places

a) 1.174 →
b) 5.029 →
c) 0.017 →
d) 15.264 →
e) 3.9996 →
f) 1.083 →
g) 24.316 →
h) 0.9017 →
i) 2.818 →
j) 4.617 →
k) 6.301 →
l) 0.0752 →
m) 1.2837 →
n) 8.295 →
o) 14.004 →

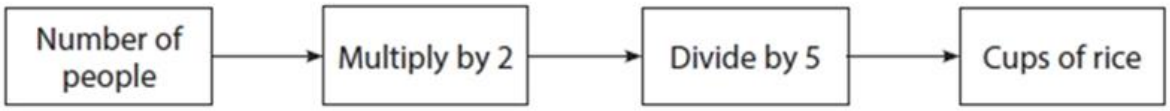
Notes

Formula and Function machines

Magda works at a charity for homeless people.

She needs to make lunch for 15 people.

Magda knows this rule to find the amount of rice she needs to cook.



Magda thinks she needs to cook 10 cups of rice for 15 people.

Is Magda correct?

Show why you think this. (4)

2) Donna and her friend Martin are training for a sponsored run.
The sponsored run is 26 miles.
They find this rule to calculate how many calories are used to run 1 mile.

Donna weighs 136 pounds.
Martin weighs 152 pounds.
Martin thinks he will use 300 more calories on the sponsored run than Donna.

Is Martin correct?

Show why you think this. (3)

3) Michael plays football.

Michael wants to know how fit he is.

He measures his heart rate in beats per minute (bpm).

Michael uses this formula to work out his fitness value.

$$F = \frac{m \times 15}{r}$$

F = fitness value

m = maximum heart rate

r = resting heart rate

Michael has a

- Maximum heart rate of 192 bpm
- Resting heart rate of 50 bpm

A footballer should have a fitness value greater than 54.

Does Michael have a fitness value greater than 54? (3)

Show your workings.

4) Tim wants to hang curtains along all 4 walls of his shed.

He uses this formula to work out the amount of material he needs to buy.

The length of the shed is 7.25m and the width is 3.75m.

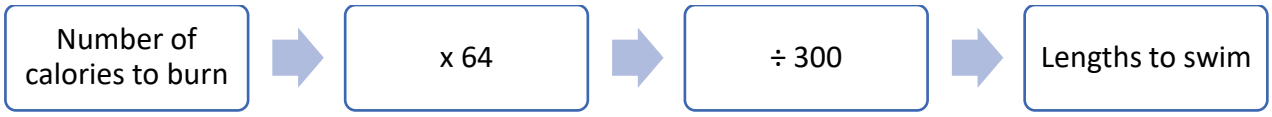
Tim thinks he needs to buy 44m of material.

Does Tim need to buy 44m of material?

Show your workings. (3)

5) Jenny goes swimming at the fitness centre to burn calories.

She uses this formula to work out how many lengths of the pool she needs to swim.



Jenny wants to burn 350 calories.
Jenny thinks she needs to swim 65 lengths to burn 350 calories.
Is she correct?

Show your workings.

(3)

6) Don is organising a comedy night for charity.

He is going to sell food at the comedy night.

Here is the price list.

Price List	
Slice of pizza	£2.75
Hot dog	£1.25
Hamburger	£1.95
Sandwich	£2.25
Chips	£1
Cake	£1.45

Don uses these instructions to work out how much money he can expect to make buy selling food at the comedy night.

Work out the mean average price of all the items in the price list.

Multiply this mean average price by 80.

Don thinks he can expect to make at least £140.

Can Don expect to make at least £140 by selling food at the comedy night?

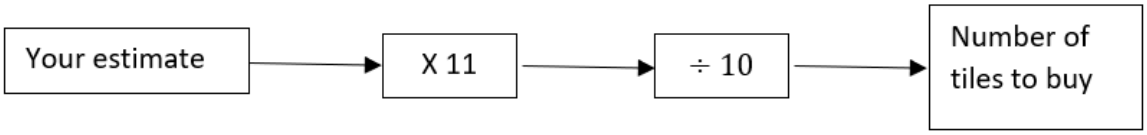
Show your workings. (3)

7) Anna wants to buy tiles for her bathroom floor.
She estimates that she needs 32 tiles.

The shop assistant says,

'Buy more tiles in case you need extra to cut.'

He gives her this rule:



Anna thinks the rule shows she needs to buy 40 tiles.

Is Anna correct?

Show why you think this.

(2)

Fractions

1) Simplify the following

a) $\frac{11}{33}$

b) $\frac{50}{120}$

c) $\frac{28}{35}$

d) $\frac{6}{18}$

e) $\frac{18}{36}$

f) $\frac{45}{54}$

g) $\frac{15}{30}$

h) $\frac{27}{45}$

i) $\frac{12}{24}$

j) $\frac{42}{49}$

k) $\frac{21}{28}$

l) $\frac{15}{45}$

2) Put the following in order from smallest to largest

a) $\frac{11}{32}$ $\frac{14}{16}$ $\frac{7}{8}$

b) $\frac{39}{100}$ $\frac{19}{20}$ $\frac{9}{10}$

c) $\frac{21}{24}$ $\frac{7}{12}$ $\frac{5}{6}$

d) $\frac{8}{18}$ $\frac{5}{6}$ $\frac{8}{12}$

3) Marta manages the rentals of beach huts.
There are 96 beach huts.

24 of these beach huts are available to rent.

Marta thinks that $\frac{1}{4}$ of the beach huts are available to rent

Is Marta correct?

Use the box to show clearly how you get your answer. (2)

4) The table shows the amount of money collected by each team of the rowing event.

Team	Amount collected
A	£2347
B	£3862
C	£3581
D	£1954

Luke was in team A.

He says 'Team A collected $\frac{1}{5}$ of the total amount

Is $\frac{1}{5}$ of the total amount of money collected £2347?

Use the box below to show clearly how you get your answer. (3)

5) Last year, the company had 18 000 bookings in total.

5400 of these bookings were for boat trips.

Olga says '$\frac{1}{3}$ of all our bookings last year were for boat trips.

Is Olga correct?

Show a check of your working

Use the box to show clearly how you get your answer. (3)

6) Jane has a lawn in front of her house.
The lawn is in the shape of a rectangle 6m by 4 m.

She buys one box of lawn feed.

One box is enough for 100 m² of lawn

Jane says, 'my lawn needs $\frac{1}{4}$ of this box'.

Will $\frac{1}{4}$ of this box be enough for the lawn?

Use the box to show clearly how you get your answer. (4)

7) There is a special offer for afternoon tea at the hotel.

Afternoon Tea
Normal price £22
Book early and save 15%

Work out 15% of £22.

Use the box to show clearly how you get your answer. (2)

Percent

Find 10% of the following amounts

a) £65	b) £90
c) £250	d) £600
e) £67.40	f) £74.50
g) £4.50	h) £840
i) £730	j) 78.5
k) £88	l) 12.5
m) £95	n) 500
o) £578	p) 750

Increase the following by 15%

a) £700
b) £300
c) £90
d) £250
e) £590
f) £770
g) £420
h) £360

Decrease the following by 5%

a) £700
b) £300
c) £90
d) £250
e) £590
f) £770
g) £420
h) £360

1) Six students complete an assessment. To pass the assessment the students need to get at least 75% of the total marks. The total mark is 128. John scored 98 marks.

Has John passed the assessment?
Use the box to show clearly how you get your answer. (2)

2) Jane wants to buy a barbecue. She sees this offer:

Work out 20% of £150 for Jane.

Use the box to show clearly how you get your answer. (2)

3) There are 6000 bees in the behive.
15% of the bees in the beehive are male bees.
Alia thinks there are 900 male bees in the beehive.
Is Alia correct?
Use the box to show clearly how you get your answer. (2)

4) Freya is the production manager.
There are 125 staff making food at polar frozen foods.
Each of them works 35 hours a week.

Freya is going to raise the hourly rate of these staff from £7.20 per hour to £8.25 per hour.
She also wants to increase the number of staff making food by 8%
They will be paid £8.25 per hour and will also work 35 hours a week.

Calculate the increase in the total amount of money the company will have to pay the staff making food each work.
Use the box to show clearly how you get your answer. (4)

5) In the hotel Winston and Karen see this offer

Walking Tour
Normal price
250 Croation Kuna
Book today and save 15%

Work out 15% of £250

Use the box to show clearly how you get your answer. (2)

6) Ruth gets paid £160 every two weeks.
She keeps £30 of this amount to pay for household bills.
She thinks that £30 is 20% of £160.
Is Ruth correct?
Use the box to show clearly how you get your answer. (2)

Simple Interest

1) You deposit £400 into a bank account paying 5% simple interest per year. How much interest would you have earned after 4 years?

Use the box to show clearly how you get your answer. (2)

2) Here is information about two investments

Investment A Invest £2400 for 3 years and get £ 8 each month

Investment B Invest £2400 for 3 years at a rate of 3.5% per year simple interest.

Which is the better investment?

Show your working and write your answer in the box below. (5)

3) Meg has £1200 in her savings account.

The account pays 5% simple interest per year.

How much interest will she earn in 4 years?

Use the box to show clearly how you get your answer. (2)

4) Jay is paid £2000 each month.

He saves 6% of the £2000 each month.

How many months will it take Jake to save £480?

Use the box to show clearly how you get your answer. (3)

5) Chris borrows £6000 at a simple interest rate of 10% per year.

He pays the money back after 4 years.

How much does he pay back in total?

Use the box to show clearly how you get your answer. (3)

6) Bhavin is saving to buy a car

She put £4000 into her bank account four years ago with simple interest at 3.5%.

How much money does she have now?

Use the box to show clearly how you get your answer. (2)

1) Two shops are having a sale.

Shop A is offering $\frac{1}{8}$ off all items.

Shop B is offering 15% off all items.

Which shop is offering a better deal? (3)

Show your working and answer in the box below

2) Dean says that 13% is greater than 0.1

Is Dean correct?

Show why you think this (2)

3) Daniel has these test results

Public services 46% maths 68% English $\frac{13}{20}$ Art and design $\frac{6}{10}$

His tutor wants to compare these results.

List the subjects in order from his best results to his worst. (3)

Show your working and answer in the box below

4) Tom and Jerry both earn the same salary.

Each month:

Tom saves 35% of his salary.

Jerry spends $\frac{3}{5}$ of his salary and saves the rest.

Who Saves the most money each month? (3)

Show your working and answer in the box below

5) There are 40 sweets in a bag.

Ben eats $\frac{1}{8}$ of the 40 sweets

Jerry eats 20% of the 40 sweets

What fraction of the sweets do Ben and Jerry eat altogether? (3).

Show your working and answer in the box below

6) Cruz is the editor of a magazine.

The magazine has 40 pages

The magazine must have:

- 20% of the pages for adverts
- $\frac{1}{4}$ of the pages for photos
- the remaining pages for articles

Work out the number of pages for articles in the magazine. (4)

Show your working and answer in the box below

7) Caz is offered a new contract at work.
He can choose how he wants to be paid.

Option A	Option B	Option C
Salary £37 200 per year	18% of the value of his sales each month	£1000 each month plus $\frac{1}{8}$ of the value of his sales each month

Caz expects to make sales of 21500 each month

He wants to be paid as much as possible.

Which option should Caz choose. (4)

Show your working and answer in the box below

Notes

Ratio

1) The cost of 15 litres of petrol is £18
Work out the cost of 27 litres of petrol.
Use the box to show clearly how you get your answer. (2)

2) Jenny buys 4 folders.
The total cost of these 4 folders is £6.40
Work out the total cost of 9 of these folders.
Use the box to show clearly how you get your answer. (2)

3) Theresa bought 5 theatre tickets for £160
Work out the cost of 8 theatre tickets.
Use the box to show clearly how you get your answer. (2)

4) The workers in a company are in a ratio of female: male is 2:5

a)What is the ratio of female to all the workers?

Use the box to show clearly how you get your answer. (2)

b)The company has 150 female workers.

How many workers are there altogether? (2)

5) £75 is shared in the ratio 2:3

How much does each person get?

Use the box to show clearly how you get your answer. (2)

6) £91 is shared in the ratio 1:2:4

How much does each person get?

Use the box to show clearly how you get your answer. (2)

7) A cake recipe shown below has missing values in its table of ingredients for various quantities of cake produced.

Complete the table with the missing values. (3)

	Eggs	Sugar	Flour	Milk
4 persons	6	200g	300g	
6 persons		300g		75ml

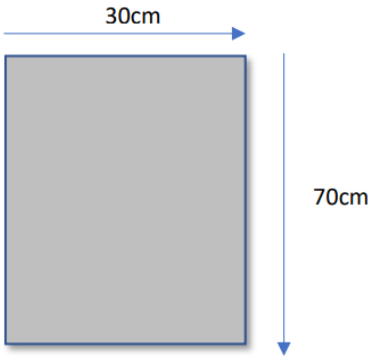
8) A mixture of paint is used for Tim's flat. To get the colour correct he needs to mix Blue and Yellow paint in the ratio 1 Blue to 3 Yellow.

Shown are the tins of paint Tim can buy.

Tim works out he will need 16L of the blue/yellow mixture to cover all the walls.

Work out the total cost of Tim's painting job, show all your working out. (3)

9) A family photo is increased in size so that each length is 1:4 bigger than its original size. The dimensions of the enlarged photo are shown below.

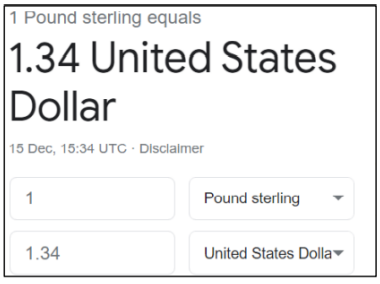


Amit keeps the original photo and places the larger on her wall. She thinks that the original smaller photo can fit into a frame 7cm x 15cm.

Show if she is correct.

Use the box to show clearly how you get your answer. (2)

10) Steve would like to exchange £300 into dollars. He is using the current pounds to dollars conversion as shown on his mobile.



He thinks he will get at least $400 after paying the exchange rate fee.

Exchange Fee $5.00

Show if he is correct.

Use the box to show clearly how you get your answer. (2)

11) Lime squash is made by mixing 1 part cordial to 5 parts water.

If you have 5L of cordial, how much lime squash can you make?

Use the box to show clearly how you get your answer. (2)

12) A box contains 192 pens.
They are red, blue and green.
A quarter of the pens are red.
The ratio of green pens to blue is 1:8

How many blue pens are there?

Use the box to show clearly how you get your answer. (4)

13) Archie and Charlie share their sweets in the ratio 1:4
If Charley has 12 sweets how many does Archie have?

Use the box to show clearly how you get your answer. (2)

14) Heidi and Jemma share some money in the ratio 3:7
If Heidi has £45?

a) How much does Jemma have? (2)

b) How much do they have in total? (1)

Use the box to show clearly how you get your answer.

a)£_____

b)£_____

Conversion

Convert the following

q) 4cm to mm	r) 56g to kg
s) 7m to cm	t) 5.5kg to g
u) 5km to m	v) 4 L to ml
w) 1.5cm to mm	x) 750ml to L
y) 230m to km	z) 17.5L to ml
aa) 1km to cm	bb) 2.5 hrs to mins
cc) 3kg to g	dd) 3 ¼ hrs to mins
ee) 456p to £	ff) 0.5 hrs to seconds

1) Leanne needs bottles of water for the people at the training day.

Each bottle contains 2 litres of water. There will be 13 people. Every person will have 3 glasses of water. Each full glass holds 250ml of water.

Leanne thinks she will need 5 bottles of water.

Are 5 bottles of water enough for 13 people?

Use the box below to show clearly how you get your answer. (5)

2) Clive plans to walk with a friend along the Cliffs of Moher.
Clive wants to carry a total of at least 3 litres of liquid to drink on the walk.

He has

2 large bottles of water (750ml each)
2 small bottles of water (500ml each)
2 cans of soft drink (330ml each)

a) Does Clive have at least 3 litres of liquid?

Use the box below to show clearly how you get your answer. **(4)**

3) Jean is the manager of a bakery.

She finds this list of ingredients for fruit bread.

500g flour
14g yeast
50g sugar
50g butter
250g dried fruit
150ml milk

Jean has a 15kg bag of flour.

She wants to use all this flour.

What weight of sugar must Jean use with this flour?

Use the box to show clearly how you get your answer. (3)

4) Paulo is a chef at the hotel.

He wants to make scones for afternoon tea.

Paulo is going to use these ingredients.

Scone recipe
Makes 8 scones
80g butter
80g sugar
500g flour
2 eggs
250ml milk

Paulo wants to make 80 scones.

He has 3 litres of milk.

Does Paulo have enough milk to make 80 scones?
Show why you think this

Use the box below to show clearly how you get your answer. (4)

5) Tom leaves a bag of food for the dog.
He knows the dog eats 350g of food each day.

The bag contains 5kg of dog food.

Is 5kg of dog food enough for 14 days?

Use the box below to clearly show how you get your answer. (3)

6) Norman sells the same type of potatoes in bags of different weights.

Potatoes
500g
48p

Potatoes
2kg
£1.65

Norman says the 500g bags of potatoes give the best value for money.

Is Norman correct?

Show why you think this. (3)

7) The opening hours for the beach office change during the year.

These are the opening times for the beach office.

Peak season	
Monday to Sunday	9.30 am to 6.30 pm
Off-peak season	
Monday to Friday	9.30 am to 3.30 pm
Saturday and Sunday	closed

Marta wants to compare the number of hours the office is open each week for two seasons.

For how many more hours is the office open each week in the peak season than in the off-peak season? (4)

Use the space below to show clearly how you get your answer.

8) Kay is organising an exhibition on health and beauty.

The exhibition will be open from 11 am to 4 pm.

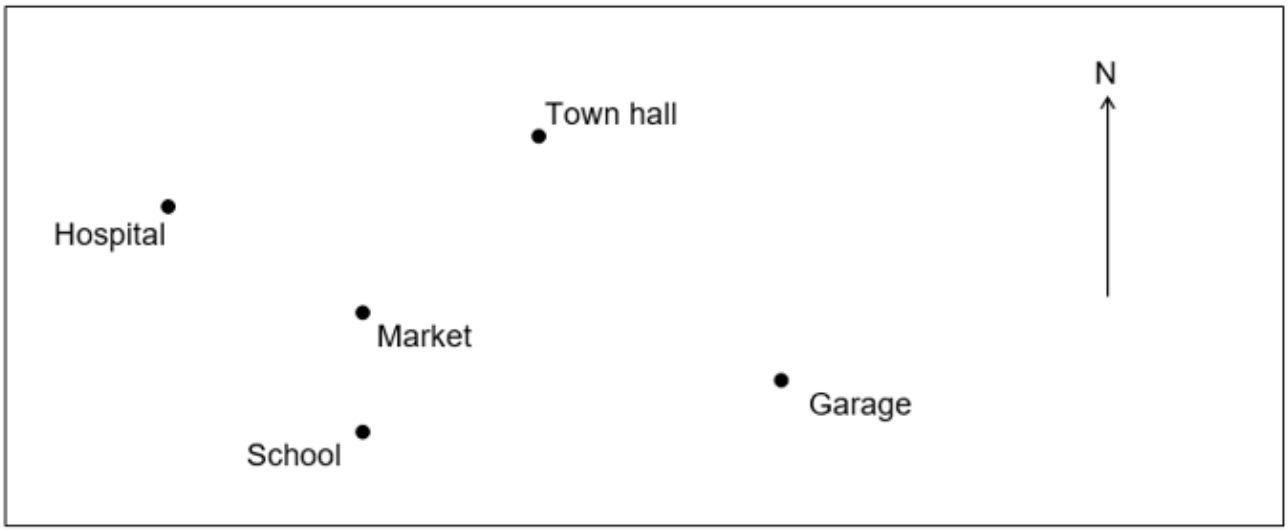
There will be

3 different exhibition rooms with presentations
a lunch break for 45 minutes.
a coffee break for 30 minutes.

Lunch and coffee will be served in the restaurant.
Kay wants people to spend an equal amount of time in each exhibition room. She thinks this means people will spend at least 1 hour 20 minutes in each exhibition room.
Is Kay correct? (4)

Use the space below to show clearly how you get your answer.

Bearings



1) What is South-West of the Town hall?

Tick the correct answer. (1)

Hospital	Market	School	Garage
( )	( )	( )	( )

2) Measure the three-figure bearing from the Town hall **from** the Hospital. (2)

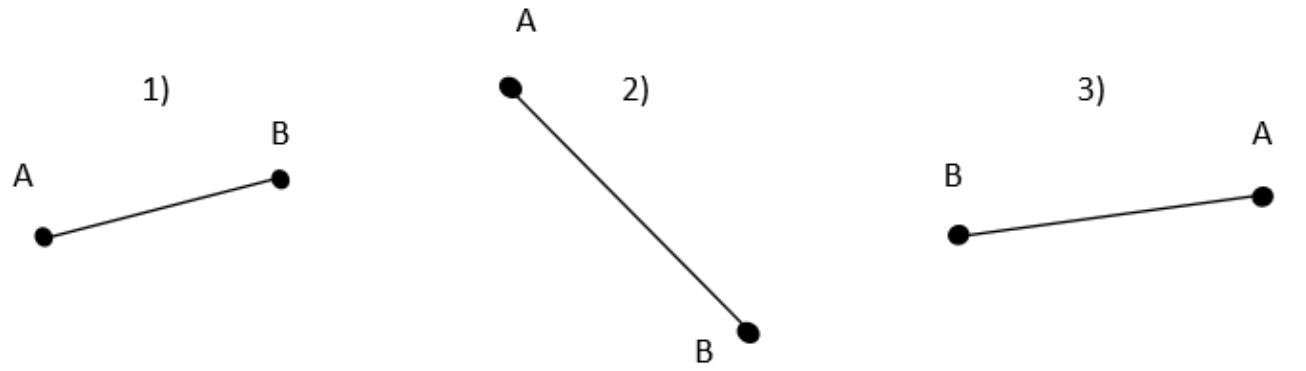
_____°

3) The diagram shows the position of two villages, A and B.

a) What is the bearing of A **from** B? (1)

b) What is the bearing of B **from** A? (1)

4) Write the bearings of B **from** A in each case. (3)



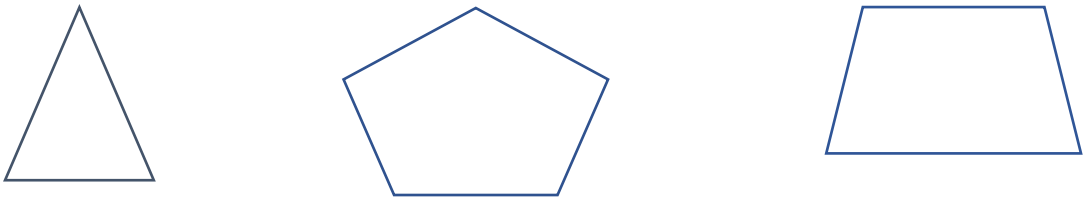
1)	2)	3)

Geometric Shapes

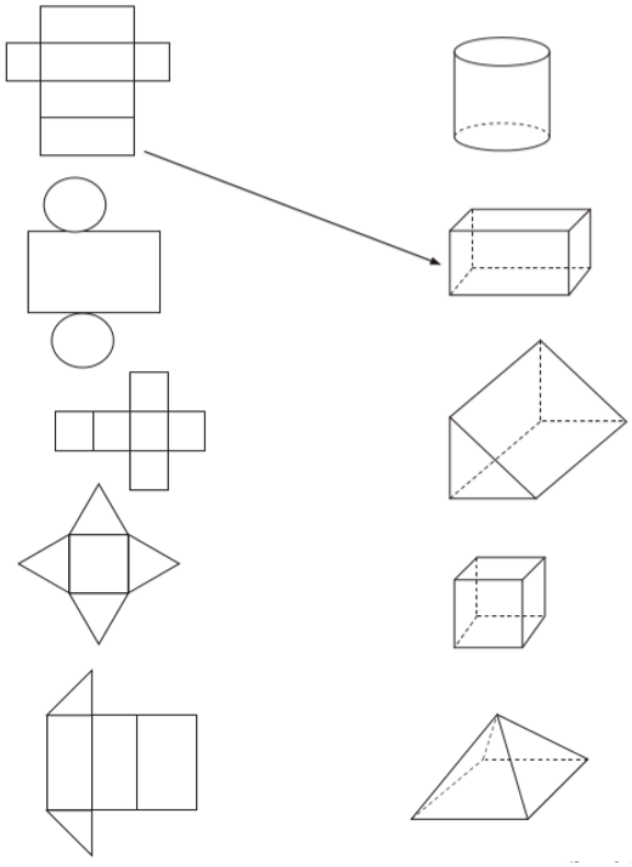
1) Name the shapes below (4)

_____ _____ _____ _____

2) Draw in the lines of symmetry for the shapes below. (3)



3) Draw a line from the nets of the shapes to their matching 3D solids. (4)

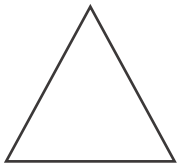
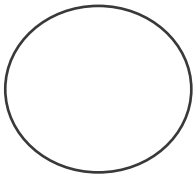
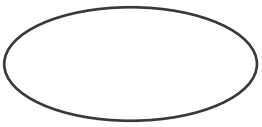


4) Complete the table below. (4)

3D shape	Faces	edges	Vertices
Cube			
	5	8	5
Triangular prism			
	3	2	0

5) Which shape below is the **Plan** view of a cylinder? (1)

Tick the correct shape.

			
( )	( )	( )	( )

6) Liz wants to work out where to put a bed and a wardrobe in her daughter's bedroom.

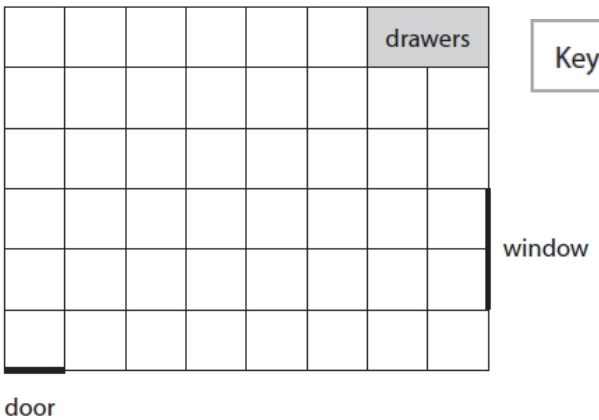
The bed needs a rectangular space 2 m by 1 m.
It must be in a corner of the room.

The wardrobe needs a rectangular space 2 m by $\frac{1}{2}$ m.

The longest side must be against a wall.

Liz draws a plan of the bedroom on a grid.

Draw a space for the bed and a space for the wardrobe on the grid. (3)



Key: 1 square on the grid is 50 cm by 50 cm in the room

7) Anna needs to work out where to put the toilet and the basin in her bathroom.

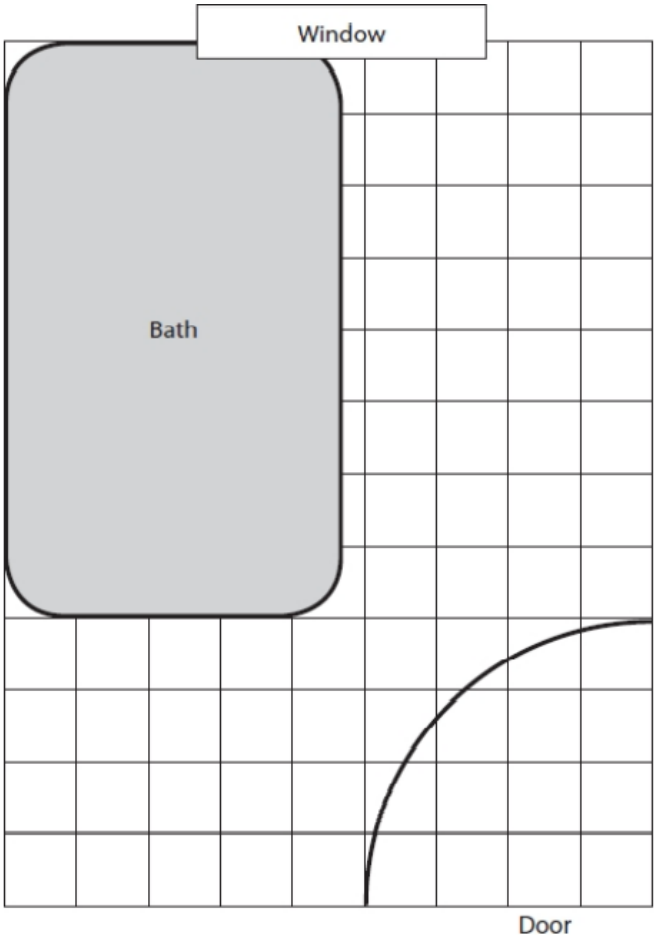
The toilet must be in a corner of the room and not in front of a window.

It needs a rectangular floor space 50 cm by 125 cm.

The basin must be against a wall. It needs a space 75 cm square.
Anna draws a plan of the bathroom on a grid.

Draw and label the space for the toilet and the space for the basin on the grid. (4)

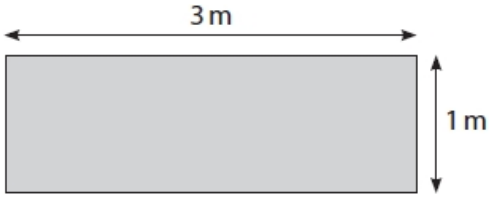
Remember to use the key.



Key: 1 square on the grid is 25cm by 25cm in the bathroom.

8) Billy has two tables to seat the 12 people.
The top of each table is a rectangle 3 m by 1 m.

Each person sat at a table needs a space of length 1 m.



Billy wants to put the two tables together so that

- they touch along one edge
- all 12 people can sit at a table.

(b) Draw a diagram to show how Billy can put the two tables together. (2)

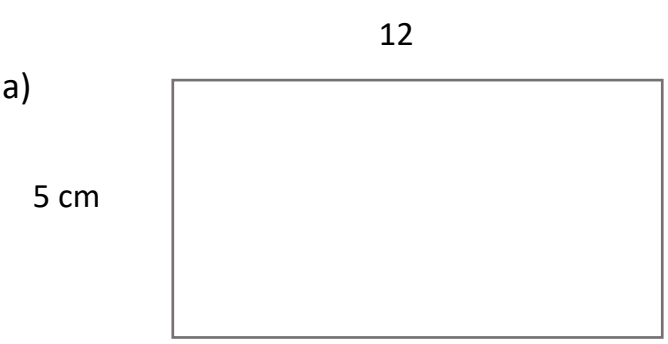
Use the space below to draw your diagram.

Notes

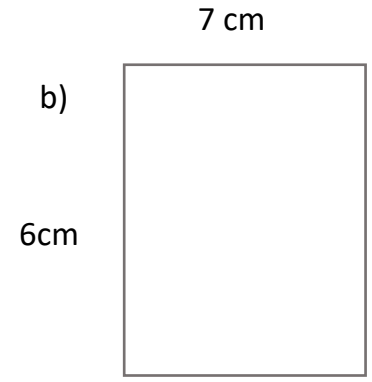
Area and perimeter

1) Find the area and perimeter of the two shapes below (4)

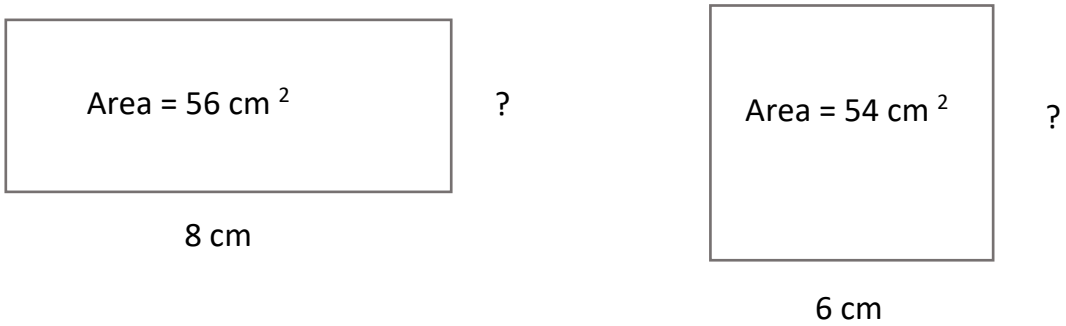
a)



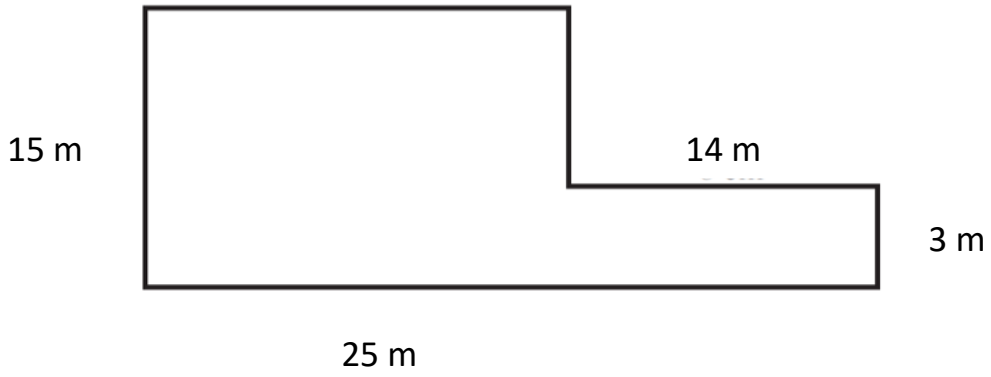
b)



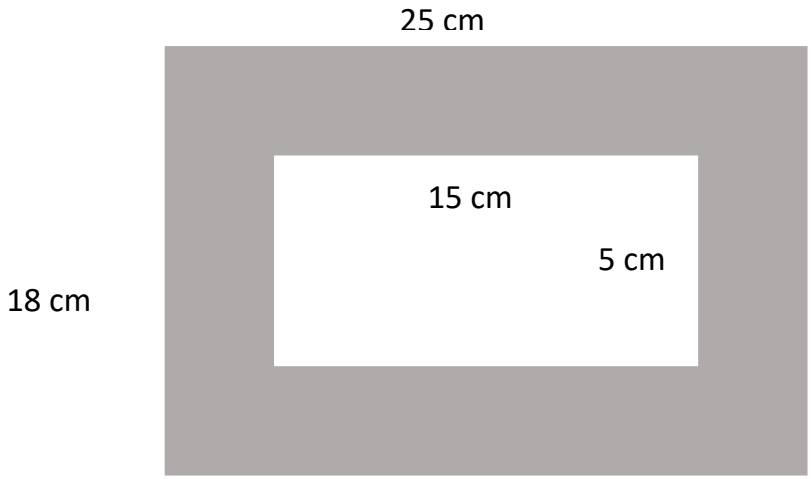
2) Find the missing sides on the two shapes below. (2)



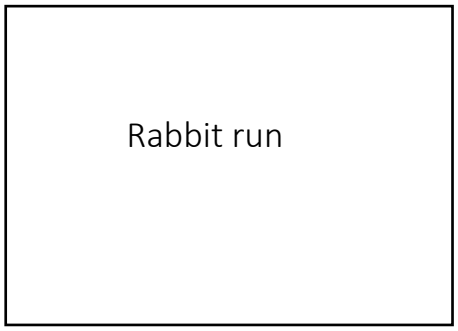
3) Find the area and perimeter of the shape below. (4)



4) Find the shaded area of the shape below (3)



5) Ben needs to put wire fencing around the rabbit run.



Wire fencing is sold in rolls of length 6m. The fencing can be joined. Ben has 3 rolls of wire fencing.

Are 3 rolls of wire fencing enough to go around the rabbit run? (4)

Use the space below to show clearly how you get your answer.

6) Marta needs to cover the whole floor in 3 of the beach huts with tiles.

The floor in each beach hut is rectangular 400cm by 200cm.

Each tile is square 50cm by 50cm.

Diagram **not** accurately drawn

Each tile costs £8.99.

Marta has £850 to spend on the tiles.

Is £850 enough to buy all the tiles Marta needs? (6)

Use the space below to show clearly how you get your answer.

7) Kay wants to plan the displays in a room.

Each display needs a space of 3 m^2.

Kay has a sketch of the room.

All corners are right angles.

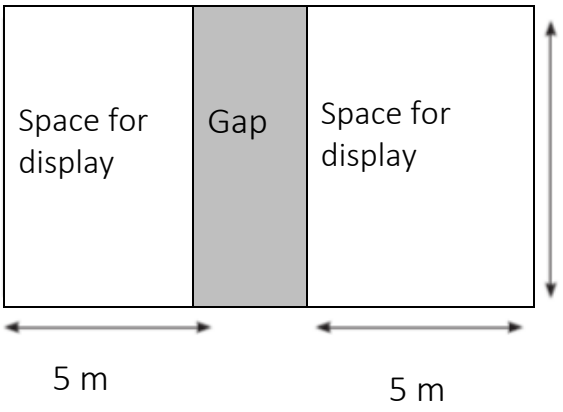


Diagram **not** accurately drawn

Kay thinks there is enough space for at least 25 displays.

Is there enough space for at least 25 displays in the room? (4)

Use the space below to show clearly how you get your answer.

8) Kay is going to do some work in her garden.

Her garden is in the shape of a rectangle.

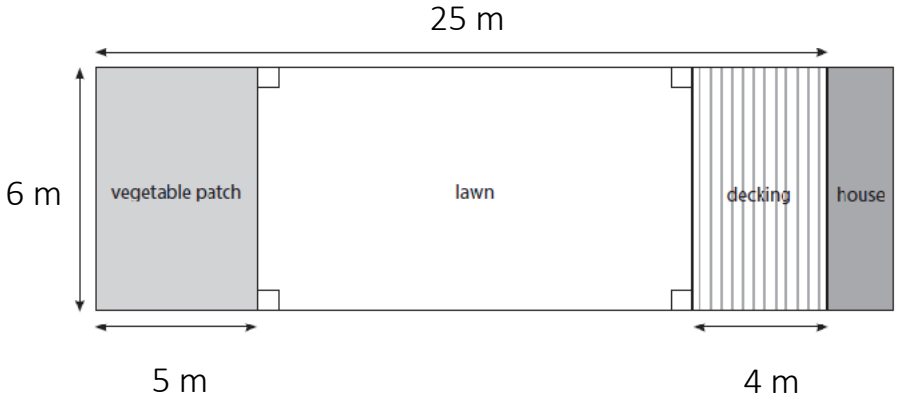
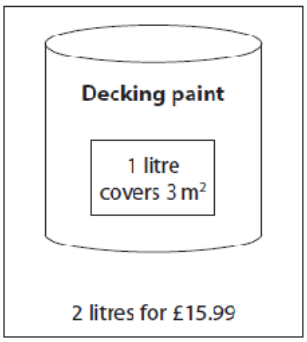


Diagram **not** accurately drawn

Kay wants to paint the decking.



She finds this paint. 1 litre covers 3 m^2

Kay thinks she can buy enough paint to cover the decking for less than £65.

(a) Is kay correct?

Show why you think this. (4)

Use the space below to show clearly how you get your answer.

Kay wants to plant flowers around the edges of the lawn.

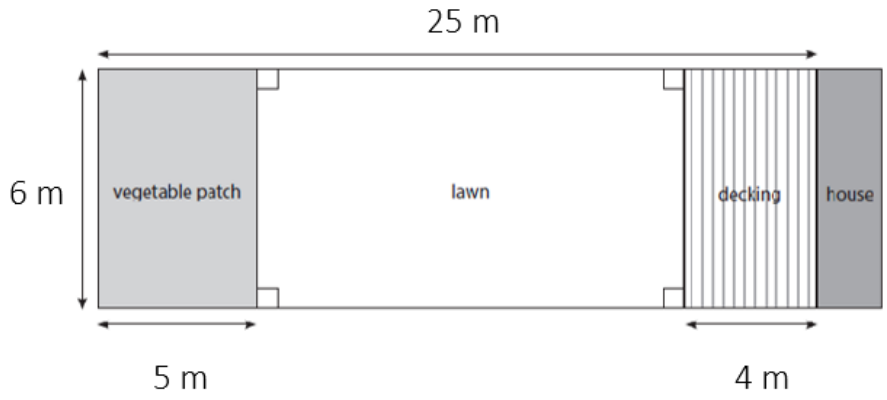


Diagram **not** accurately drawn

(b) What is the total length around the edges of the lawn? (3)

Use the space below to show clearly how you get your answer.

9) Kurt works at a treetop adventure park.

He needs to cover the roofs of 8 treehouses with paint once.

Each treehouse roof is in the shape of a rectangle 4m by 3m.

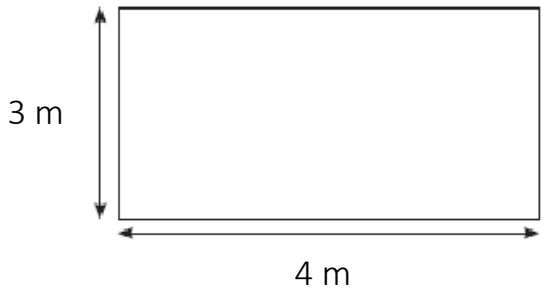


Diagram **not** accurately drawn

Kurt has 9 tins of paint.

Each tin of paint contains 5 litres.

Kurt reads this label

Paint
1 litre covers 2 m^2

Has Kurt got enough paint? (4)

Use the space below to show clearly how you get your answer.

10) Mikael plays football.

He is preparing for fitness tests.

The first test is to run 1600 m as quickly as possible.

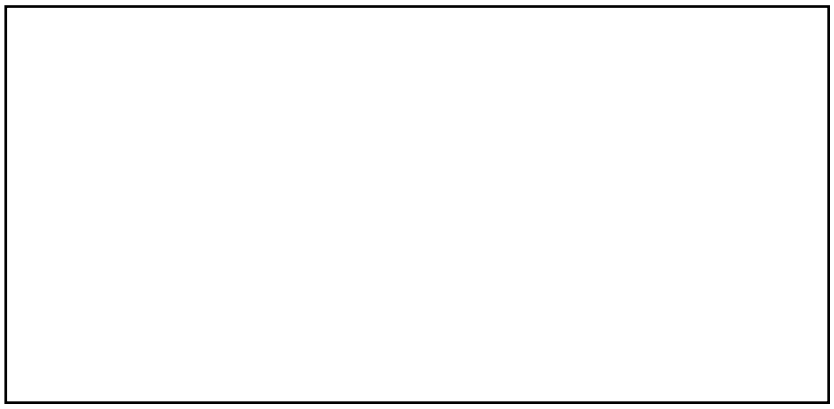


Diagram **not** accurately drawn

Mikael runs along the perimeter of this pitch 4 times.

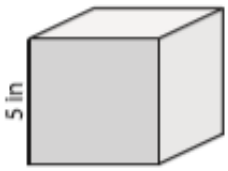
(a) Does Mikael run a total distance of 1600m?

(3)

Use the space below to show clearly how you get your answer.

Volume

1) Find the volume of this cube



Use the space below to show clearly how you get your answer. (3)

2) Find the volume of a cube that has the side length of 8 ft

Use the space below to show clearly how you get your answer. (3)

3) The length of each side of a cubical wooden block is 16 inches. What is the volume of the block?

Use the space below to show clearly how you get your answer. (3)

4) Rosa makes candles to sell. Each candle of a cuboid has a height of 9cm

The sides of each candle is 3cm.

Rosa needs to know the volume of one candle.

Work out the volume of one candle. Remember to give units with your answer.

Use the space below to show clearly how you get your answer. (3)

5) Ben wants to keep rabbits in his garden.

The rabbits will live in a rabbit run and hutch.

Ben wants to have 2 rabbits.

He knows that each rabbit needs 4500cm³.

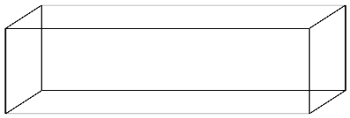
Ben has a hutch with a volume of 9500cm³.

Is this space big enough for 2 rabbits?

Use the space below to show clearly how you get your answer. (2)

6) Josh is constructing a stage at a music concert.

The stage is in the shape of a cuboid. It is 2m high.



The stage is 4m long and 12m wide

What is the volume of stage?
Remember to give the units with your answer.

Use the space below to show clearly how you get your answer. (2)

Notes

Charts & Graphs

1) Teddy works at a cinema.

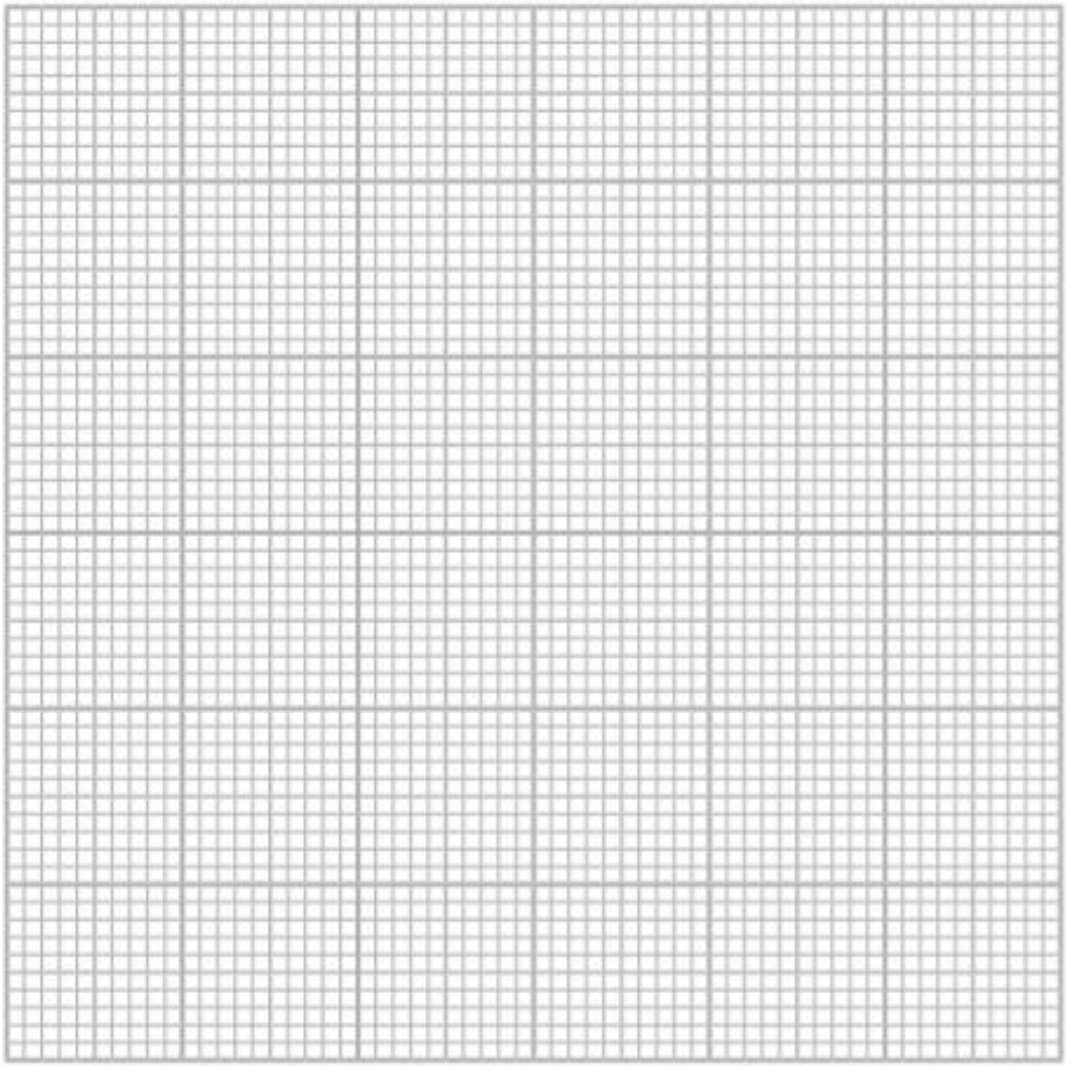
He sells frozen drinks in 4 different flavours.

Teddy wants to compare the number of sales of each flavour.

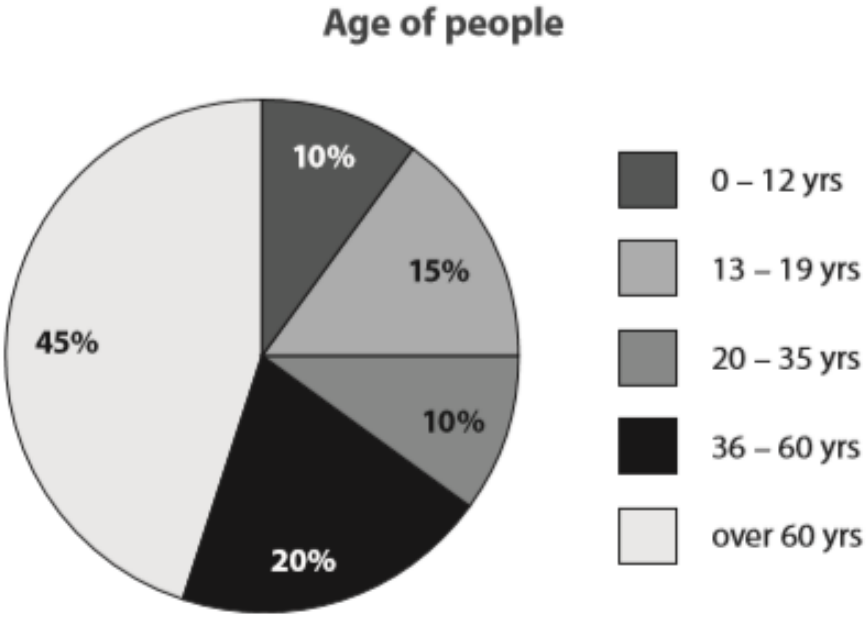
He has this information about the sales last week.

Flavour	Raspberry	Cherry	Lemon	Orange
Number of sales	195	80	155	110

Draw a graph or chart to compare the number of sales of each flavour last week.
Use the graph paper below to draw your graph or chart. (3)



2) Carry has this information about the age of people who use eye care centre.



Carrie says the pie chart shows that a quarter of the people using the eye care centre were between 36 to 60 years old.

Is Carrie correct?

Use the box below to show your answer (2)

3) The tour company offers different tours.

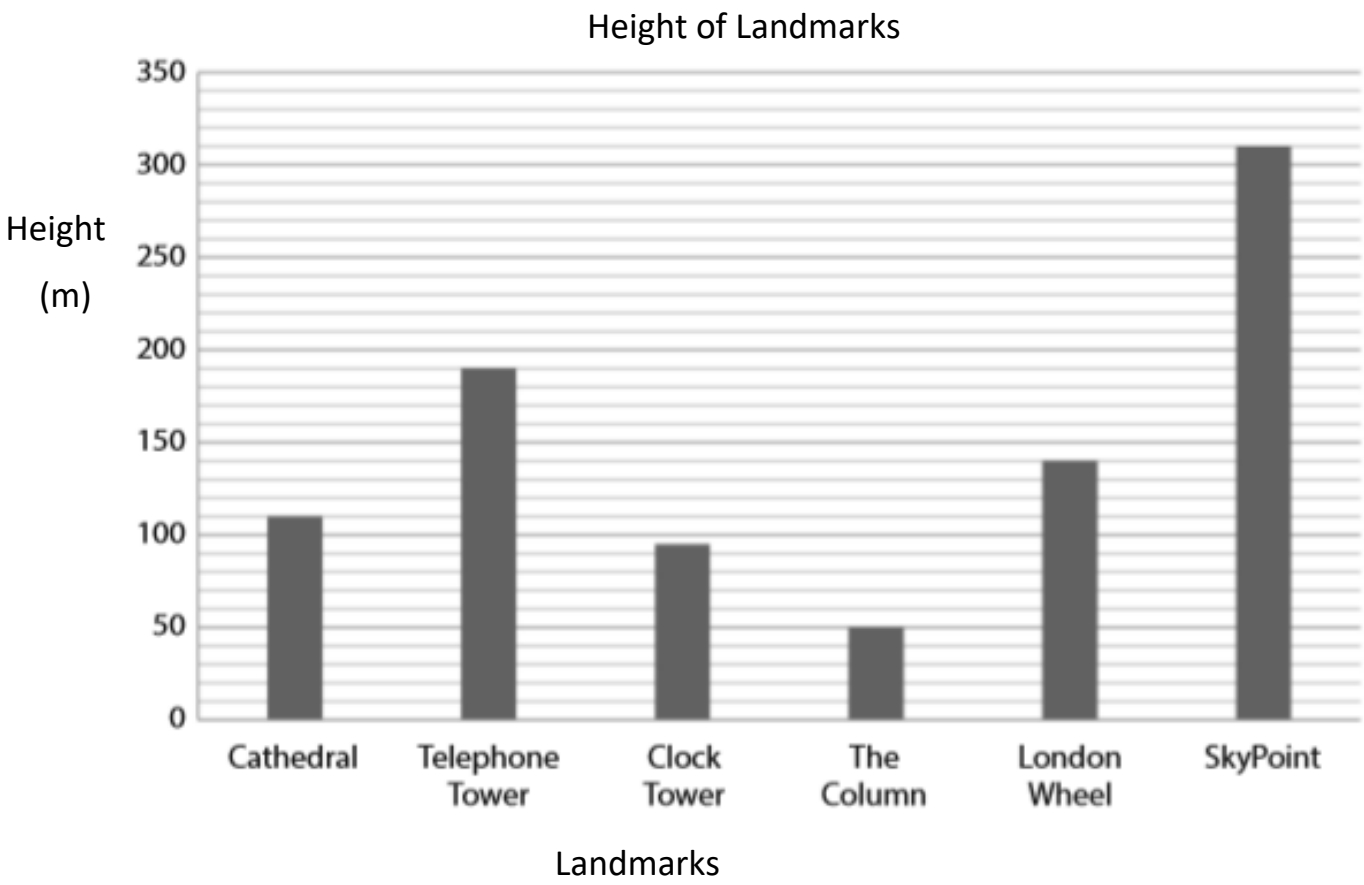
Olga has this information about the number of people who booked on each tour last year.

Olga wants to show this information in a graph or chart

Tour	Walking	Day boat trip	Evening boat trip	Cable car	Lake
Number of people	5500	3000	2400	4500	2600

Draw a suitable graph or chart for Olga. (3)

4) Veronica shows her children this chart of the height of some landmarks.



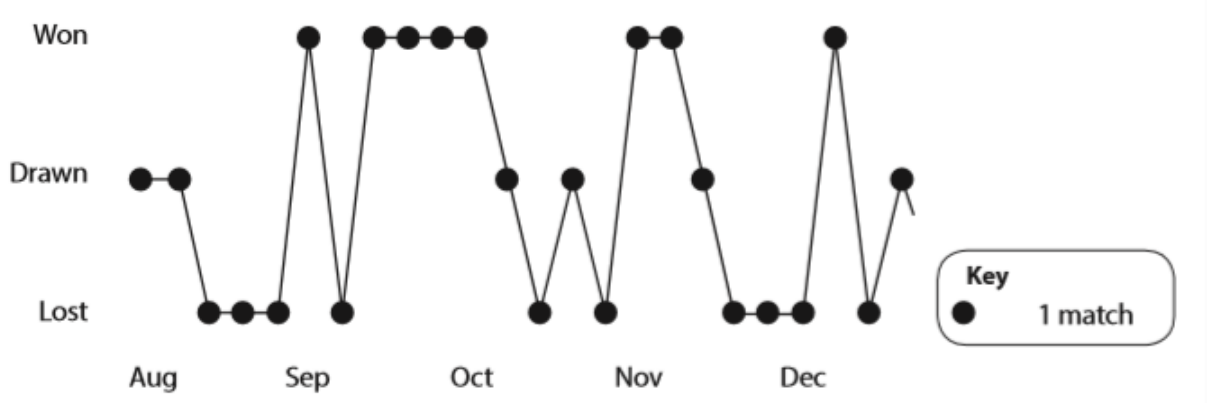
Veronica says to her children 'the height of the SkyPoint is more than 3 times the height of the Clock Tower'.

Is she correct?

Use the box below to show clearly how you get your answer (3)

5) Lowton United is a football club

The diagram shows some information about the matches Lowton United played in the league competition from August to December.



A team gets:

- 3 points for each match won
- 1 point for each match drawn
- 0 points for each match lost

How many points in total did Lowton United get from the beginning of August to the end of December?

Use the box below to show clearly how you get your answer (3)

6) Paulo manages the ticket sales for Lowton United.

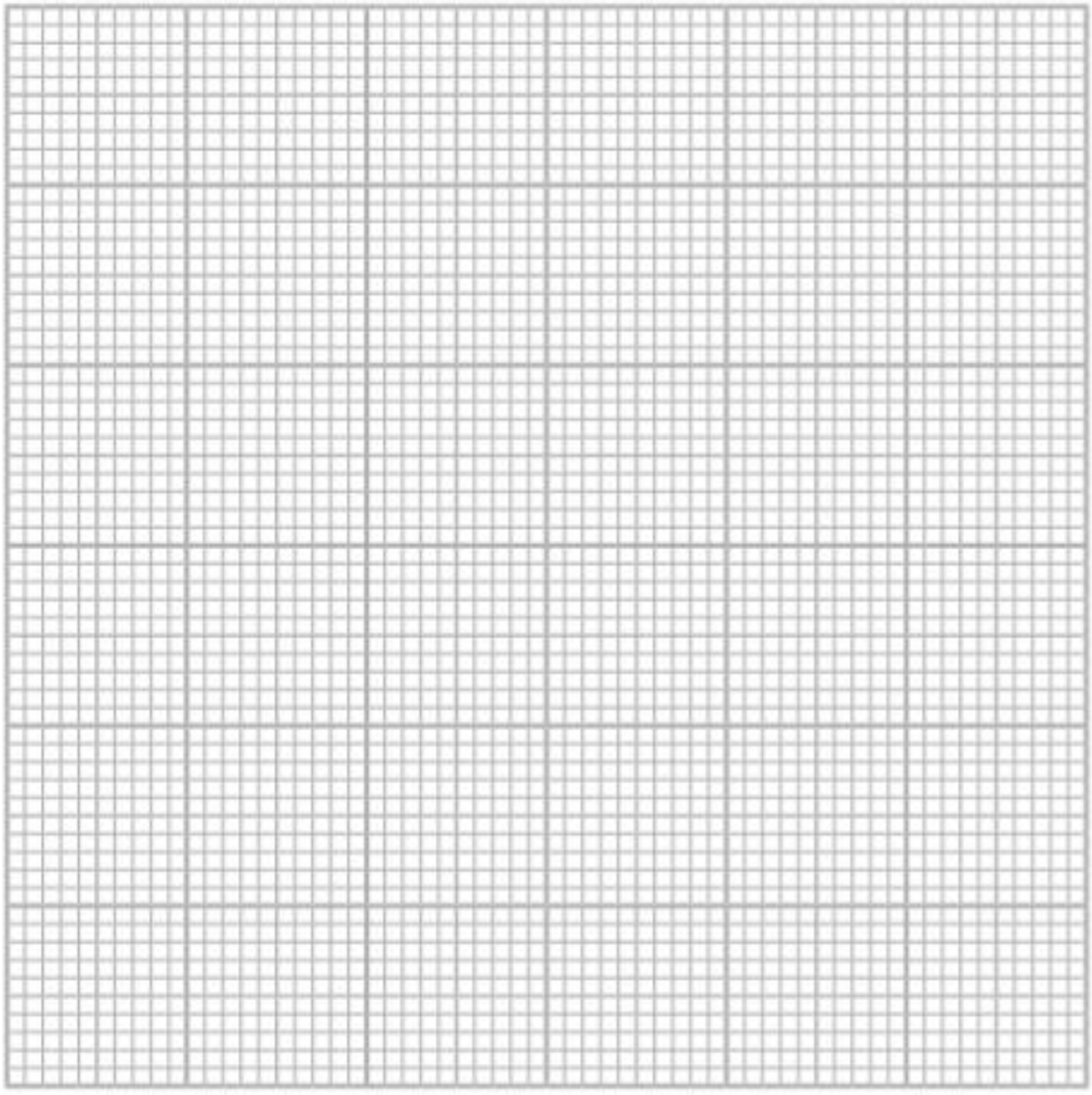
He is writing a report about ticket sales.

He wants to draw a graph to show the ticket sales for the last 6 matches.

Ticket sales

Match 1	Match 2	Match 3	Match 4	Match 5	Match 6
6200	5600	6400	6800	7200	8300

Draw a suitable graph to show this information. (3)



7) Deenesh is the manager at a hotel. He wants to organise the times his reception team will work between 12:00 and 20:00.

Rosy, Gill, Arek and Tamas all work on the reception team.

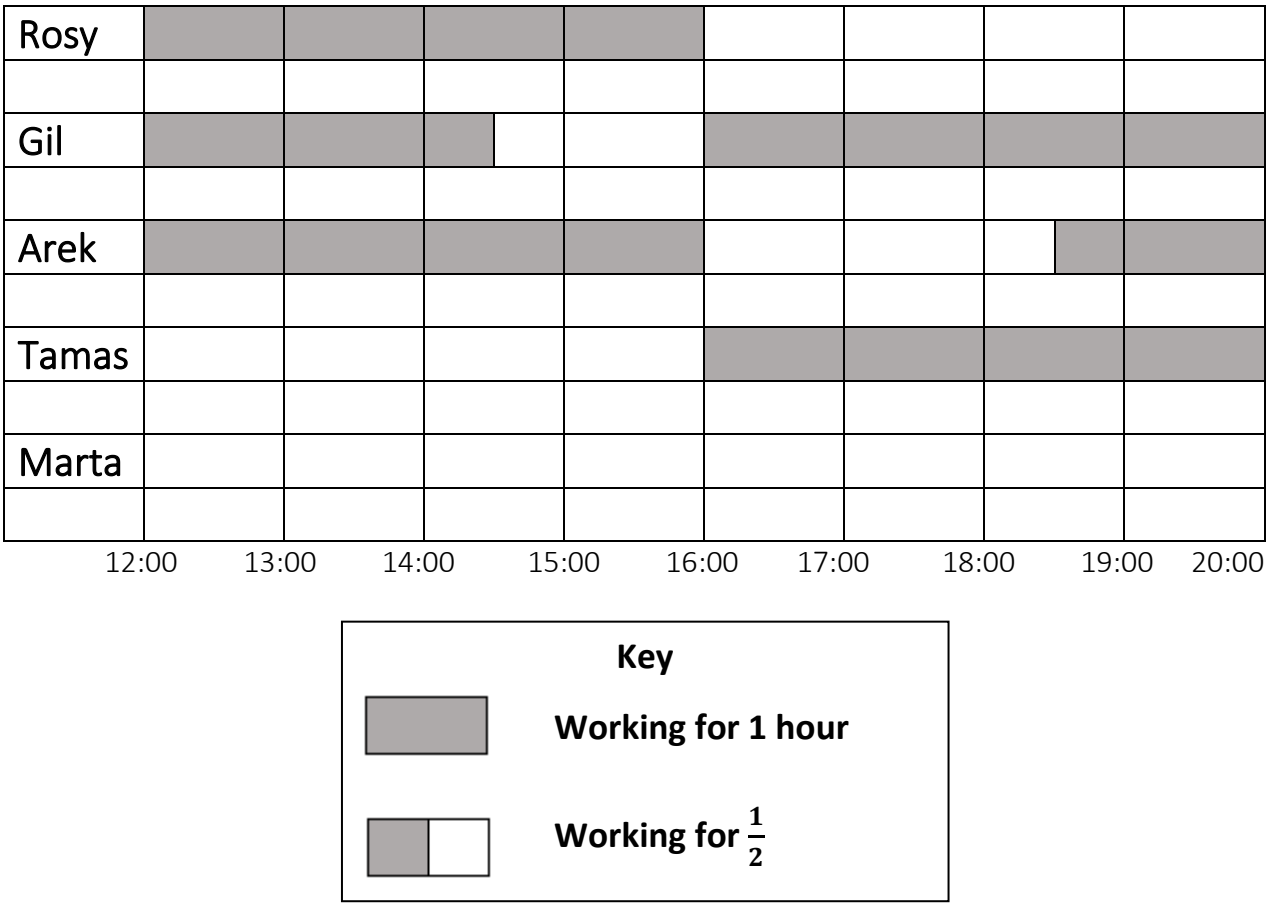
The diagram shows the time they work.

Deenesh always needs 3 people working I the reception team.

He is going to employ Marta.

Marta will work the extra hours so there are always 3 people working.

Shade the hours Marta will work on the diagram. (2)



8) Complete the frequency table below using the sickness at work data.

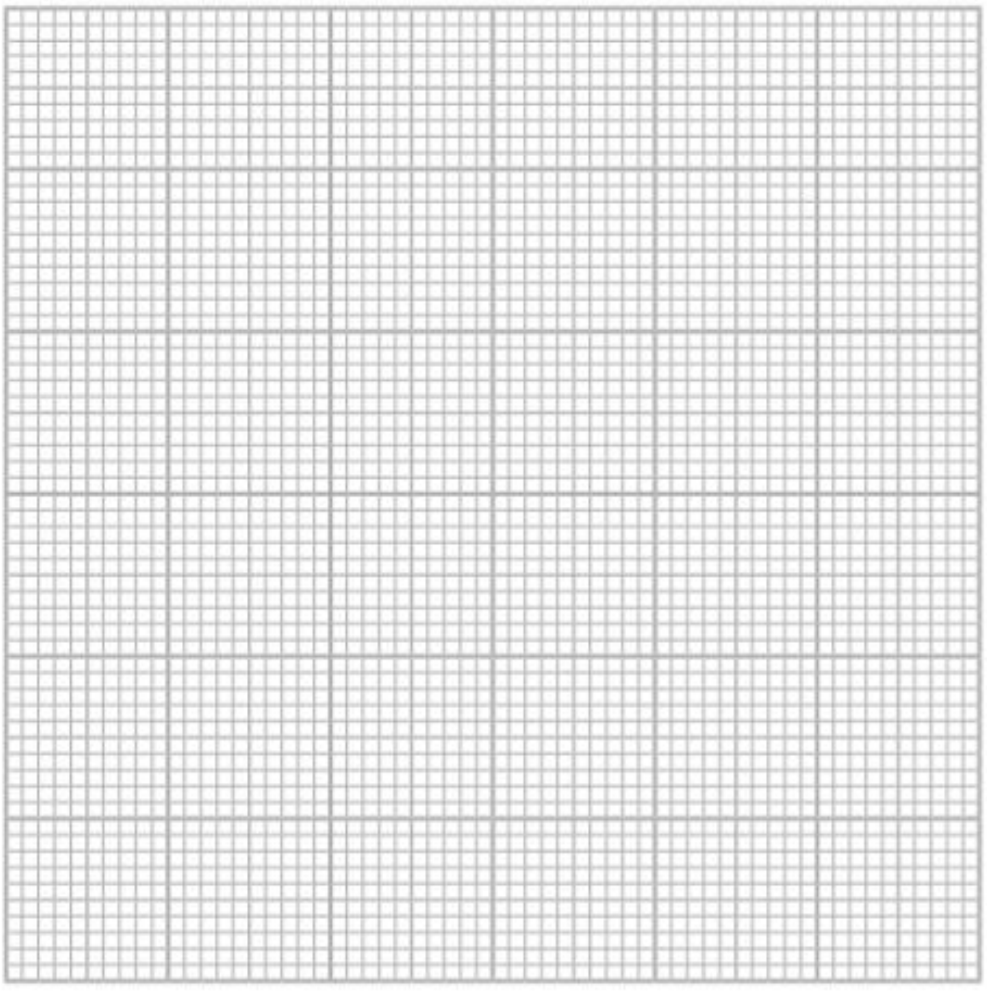
The first section has been done for you. (3)

Marks	Tally	Frequency
1 to 4	II	2
5 to 8		
9 to 12		
13 to 16		
		Total

Sickness at work

~~1~~	10	~~2~~	4	9
10	7	7	14	12
11	2	4	1	12
6	7	11	8	6
8	11	12	15	15

Display your date in a bar chart (3)



Mean and Range

1) A café is open 6 days a week.

The manager says he needs to serve a mean number of 65 people a day to make a profit.

The table shows the number of people served in the café each day for one week.

	Mon	Tue	Wed	Thur	Fri	Sat
Number of People	55	75	72	19	71	125

Jo says the mean number of people served a day is more than 65.

Is Jo correct?

Show why you think this.

Use the space below to show clearly how you got your answer. (3)

2) Zaid is the manager of an activity centre.

He needs to decide if the activity centre will run more gymnastics lessons.

Zaid has this information about the number of children who came to gymnastics lessons in the last 7 weeks.

Number of children	115	127	138	140	122	135	133

Zaid says…

'The centre will run more gymnastics lessons if the mean average number of children each week for the last 7 weeks is more than 125'

Will the activity centre run more gymnastics lessons?

Show why you think this.

Use the space below to show clearly how you got your answer. (3)

3) Luke is a member of a rowing club.

The rowing club organises a charity event using indoor rowing machines.

The table shows the time it took Luke to row 10 km in 6 training sessions.

Time taken (minutes)	54	52	47	51	45	42

Luke can enter the rowing event if his mean time to row 10 km is less than 50 minutes.

Is his mean time to row 10km less than 50 minutes? (3)

Use the space below to show clearly how you got your answer.

5) Brian has this information about the number of tickets sold for the last 5 matches.

Match	1	2	3	4	5
Tickets sold	115	93	158	127	82

Brian says…

'The average number of tickets sold for the last 5 matches is 105'

Is Brian correct?

Show why you think this. (3)

Use the space below to show clearly how you get your answer.

5a) Alia fills 5 jars with honey from the beehive.

She wants to know the mean weight of the honey in the 5 jars.

Jar	1	2	3	4	5
Weight of honey (g)	440	460	465	455	450

Work out the mean weight of the honey in the 5 jars. (3)

Use the space below to show clearly how you got your answer.

5b) Alia also wants to know the range of the weight of honey in the 5 jars.

Jar	1	2	3	4	5
Weight of honey (g)	440	460	465	455	450

Work out the range of the weight of the honey in the 5 jars. (2)

Use the space below to show clearly how you got your answer.

6) Kyle has a cleaning business.

He is going to write a report about his business.

Kyle has this information about the number of customers in the last 5 years.

Year	1	2	3	4	5
Number of Customers	653	764	698	845	923

Kyle needs to know the yearly average number of customers? (3)

Use the space below to show clearly how you got your answer.

7) Mick completes a total of 5 assessments for his course.

He gets these marks:

56 42 47 59 48

Mick needs an average mark of 50 or more to pass the course.

Does Mick pass the course?

Use the space below to show clearly how you got your answer (3)

Probability

1) Lowton United is taking part in a cup competition.

There are 8 teams including Lowton United in the competition.

To decide who will play who in the next round, the team names are chosen at random from a bag.

One team is chosen at a time.

What is the likelihood that Lowton United is chosen from the bag first? (1)

Tick a box to show your answer.

Impossible	
Unlikely	
Even chance	
Likely	
Certain	

2) Jean has baked 30 cupcakes.

15 cupcakes are lemon and 15 cupcakes are chocolate.

Jean picks up a cupcake at random to decorate it with butter cream.

What is the likelihood of the cupcake being lemon? (1)

Use the space below to show clearly how your answer

3) Norman sells 200 raffle tickets.
The prize for the raffle is a basket of fruit.

Mrs Brown buys 3 of these raffle tickets.

What is the likelihood of Mrs Brown winning the raffle? (1)

Tick a box to show your answer.

Impossible	Unlikely	Even	Likely	Certain

4) Don needs to pick a local charity to give some of the money to.
He has these charities to pick from:

- Cats home
- Local hospital
- Children's centre
- Dogs home

Don picks one charity at random.

What is the likelihood that Don picks an animal? (1)

Tick a box to show your answer below.

Very likely	Likely	Even	Unlikely	Very unlikely

5) There is a lucky dip for a children at the café on Monday.
Each child who has a go on the lucky dip wins a prize.

There are a total of 40 prizes.
The prizes are:

- 20 red lollipops
- 10 green lollipops
- 5 yellow lollipops
- 5 blue lollipops

Bradley is the first child to have a go on the lucky dip.

What is the likelihood that Bradley wins a blue lollipop? (1)

Tick a box to show your answer.

Impossible	
Unlikely	
Even chance	
Likely	
Certain	

Checks

1) Atif has received a text from his bank showing the following debits
   - Restaurant £78
   - Football tickets £167

   His balance before the debits was £841 Atif wants to pay for a holiday that costs £528.

   a. Does Atif have enough money to pay for the holiday? (3)

b. Use estimation to show a check of your answer. (1)

2) Jess is an apprentice at a large organisation with 6000 employees.
   15% of those employees commute over one hour to work.
   Jess thinks 900 employees commute over one hour to work a.

   a. Is Jess correct? (3)

b. Use a reverse calculation to show a check of your answer. (1)

Notes

QR codes-Video links

Addition & Subtraction

Multiply & Divide

Rounding

Estimating

Negative Numbers

BIDMAS

Powers & Roots

Fraction of an amount

Ratio Basics

Direct Proportion 1

Direct Proportion 2

FDP Conversion

Percentage of Amount

Best Buys

Basic Area

Basic Perimeter

Angles in a Triangle

Volume

Averages

Pie Charts

Probability

Probability Tables

Averages

20
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Fraction wall

$\frac{1}{1}$										One Whole
$\frac{1}{2}$					$\frac{1}{2}$					Halves
$\frac{1}{3}$			$\frac{1}{3}$			$\frac{1}{3}$				Thirds
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$\frac{1}{8}$	$\frac{1}{8}$		$\frac{1}{8}$		$\frac{1}{8}$		$\frac{1}{8}$		$\frac{1}{8}$	Eighths
$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$		$\frac{1}{10}$		$\frac{1}{10}$		$\frac{1}{10}$		Tenths

Numbers in words

1	One	17	Seventeen
2	Two	18	Eighteen
3	Three	19	Nineteen
4	Four	20	Twenty
5	Five	30	Thirty
6	Six	40	Forty
7	Seven	50	Fifty
8	Eight	60	Sixty
9	Nine	70	Seventy
10	Ten	80	Eighty
11	Eleven	90	Ninety
12	Twelve	100	One hundred
13	Thirteen	1 000	One thousand
14	Fourteen	10 000	Ten thousand
15	Fifteen	100 000	One hundred thousand
16	Sixteen	1 000 000	One million

Dates/Months/Years

1st	first	16th	sixteenth
2nd	second	17th	seventeenth
3rd	third	18th	eighteenth
4th	fourth	19th	nineteenth
5th	fifth	20th	twentieth
6th	sixth	21st	twenty-first
7th	seventh	22nd	twenty-second
8th	eighth	23rd	twenty-third
9th	ninth	24th	twenty-fourth
10th	tenth	25th	twenty-fifth
11th	eleven	26th	twenty-sixth
12th	twelfth	27th	twenty-seventh
13th	thirteenth	28th	twenty-eighth
14th	fourteenth	29th	twenty-ninth
15th	fifteenth	30th	thirtieth
		31st	thirty-first

Months of the year	
January	July
February	August
March	September
April	October
May	November
June	December

Decade	10 years
Century	100 years
Millennium	1 000 years

Whole numbers							
Hundred Billion							
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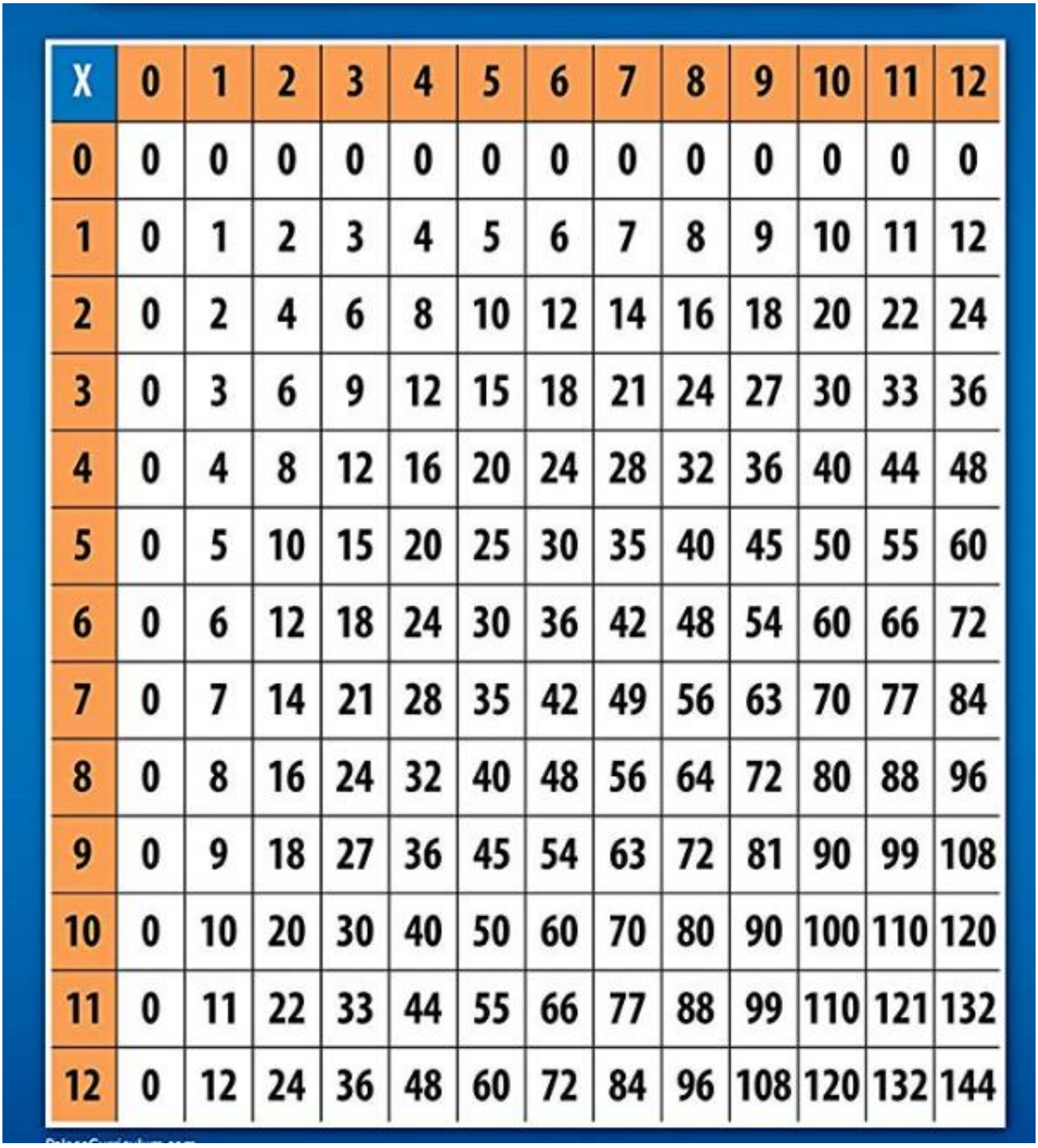
Less than whole numbers: hundredth $\frac{1}{100}$							
Less than whole numbers: thousandth $\frac{1}{1000}$							

Multiplication table



X	0	1	2	3	4	5	6	7	8	9	10	11	12
0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10	11	12
2	0	2	4	6	8	10	12	14	16	18	20	22	24
3	0	3	6	9	12	15	18	21	24	27	30	33	36
4	0	4	8	12	16	20	24	28	32	36	40	44	48
5	0	5	10	15	20	25	30	35	40	45	50	55	60
6	0	6	12	18	24	30	36	42	48	54	60	66	72
7	0	7	14	21	28	35	42	49	56	63	70	77	84
8	0	8	16	24	32	40	48	56	64	72	80	88	96
9	0	9	18	27	36	45	54	63	72	81	90	99	108
10	0	10	20	30	40	50	60	70	80	90	100	110	120
11	0	11	22	33	44	55	66	77	88	99	110	121	132
12	0	12	24	36	48	60	72	84	96	108	120	132	144

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