National 4

N4 Numeracy

Unit Test

Preparation Booklet

Exercise 1

VAT is charged at 20% in all questions.

1. A fridge was for sale at a price of £600 + VAT. What is the total cost of the fridge including VAT?

2. David bought a flat screen TV for £380 + VAT. What did David pay for the TV in total?

3. A phone shop advertised a phone at a price of £180 + VAT. What would the total cost of the phone be?

Exercise 2

1. An empty rucksack has a weight of 1500g. When 2 identical sleeping bags are packed into it the total weight is 3700g. What is the weight of one sleeping bag?

2. An empty box has a weight of 350g. When 15 cans of juice are put into it the total weight is 4850g. What is the weight of one can of juice?

3. An empty bag has a weight of 400g. When 6 footballs are packed into it the total weight is 3070g. What is the weight of one football?

Exercise 3

Exchange rate is 1.28 Euros to a pound in all questions.

1. Eilidh is going to Eurodisney in France. How much currency will she get for £200?

2. Michael is going to Italy. How much currency will he get for £650?

3. Rebecca is going to Spain. How much currency will she get for £450?

Exercise 4

1. How long is it from 0820 to 0935?

2. How long is it from 1415 to 1630?

3. How long is it from 1940 to 2120?

4. A train leaves London at 0525 and arrives in Carlisle 5 hours and 10 minutes later. What time did the train arrive in Carlisle?

5. A bus leaves Glasgow at 0830 and arrives in Oban 2 hours and 50 minutes later. What time did the bus arrive in Oban?

6. A bus leaves Greenock at 1025 and arrives in Blackpool 5 hours and 30 minutes later. What time did the bus arrive in Blackpool?

7. A bus from Inverness arrives in Balmacara at 1110. The bus takes 1 hour and 50 minutes. What time did the bus depart Inverness?

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8.   A train from London arrives in Crewe at 2210. The train takes 1 hour and 30 minutes. What time did the train depart London?

9.   A train from London arrives in Glasgow at 1220. The train takes 4 hours and 40 minutes. What time did the train depart London?
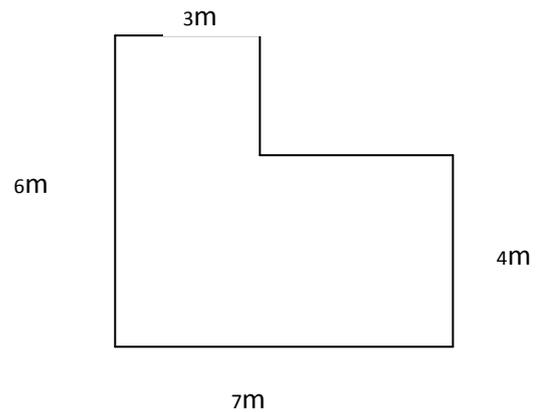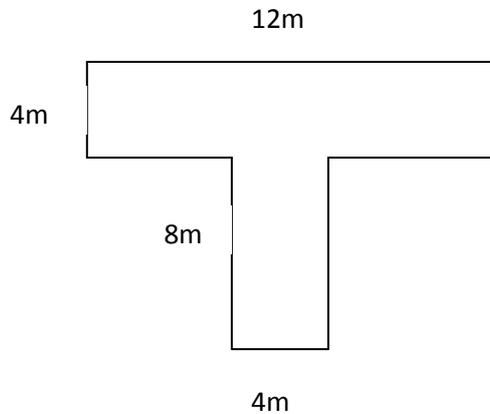
Exercise 5

Calculate the perimeter of each shape.

1.

8cm

3cm

2.

3m

6m

4m

7m

3.

12m

4m

8m

4m

Exercise 6

1. A car travels at a constant speed of 56 mph for 2 hours. How far does the car travel in this time?

2. A bus travels for 30 minutes at an average speed of 40 mph. How far does the bus travel in this time?

3. A ferry sails for 15 minutes at an average speed of 8 mph. How far does the ferry travel in this time?

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Exercise 7

1.   Share £135 in the ratio 7:2.

2.   In the Gryffe Golf Club the ratio of women to men is 3:5. How many members are women if the total membership is 336?

3.   The total attendance at a football match was 8100. The ratio of home supporters to away supporters was 7:3. How many of each support were there?
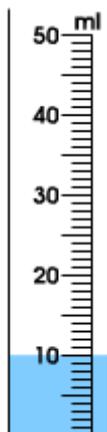
Exercise 8

1.   The temperature in Moscow was 4˚C and then dropped to -8˚C. By how many degrees did the temperature drop?

2.   A liquid is cooled from 11˚C to -6˚C. By how many degrees has its temperature cooled?

3.   A thermometer reading dropped from 12˚C to -9˚C. By how many degrees did it drop?

Exercise 9

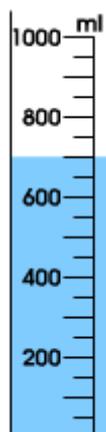Some coloured water had been added to the measuring jars below.

How much water is needed to fill each jar?

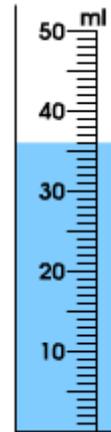1.   2.   3.
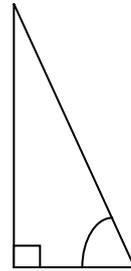

Exercise 10

1.   HiTech Stores has a deal on a television. Deposit £100 and six payments of £47.50. How much does the television cost?

2.   MusicMania has a games console on offer. Deposit £150 and six payments of £63.70. How much does the console cost?

3.   Joseph bought a guitar under a hire purchase agreement. £10 deposit and four payments of £18.50. How much did Joseph pay for the guitar?

Exercise 11

For each triangle, measure the length of the longest side **AND** the marked angle.
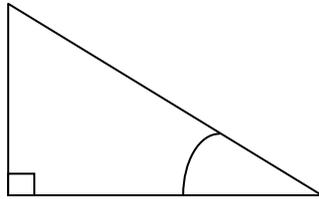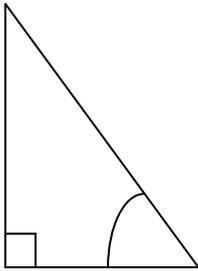
Exercise 12

A bus company offers two sizes of buses:

  Size A   48 seats Price £210

  Size B   25 seats Price £130

Each group below wants to pay the lowest total hire charge available.

How many buses of each size should they hire?

How much will this cost?

1. A school group of 100 pupils and teachers.

2. A 150 strong choir

3. 175 football supporters.

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Exercise 13

A survey from the local sports centre showed that there were a total of 420 visitors from a variety of local towns. The diagram below shows the proportion of visitors that came from each town
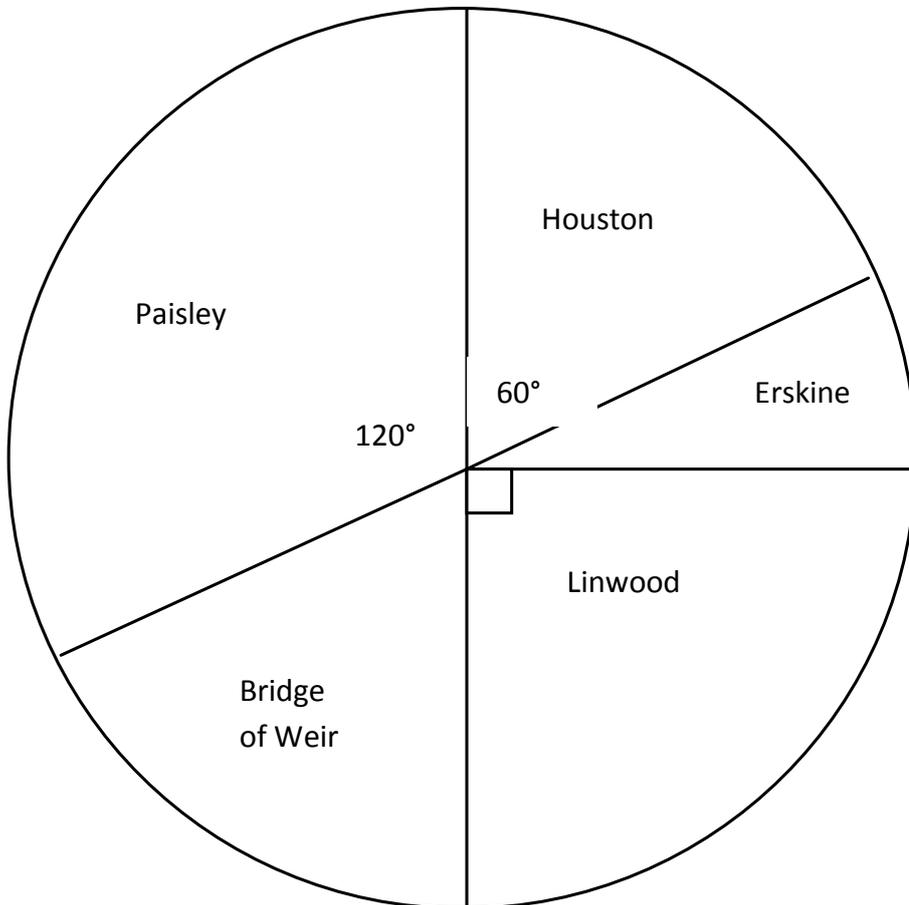
1. How many visitors were from Houston?

2. How many visitors were from Linwood?

3. How many visitors were from Paisley?

Exercise 14

The table below shows the amount of yearly interest a selection of banks will pay to a customer on savings.

Bank	Less than £1000	Between £1000 and £5000	More than £5000
A	1%	1·1%	1·4%
B	1·2%	1·3%	1·5%
C	1·1%	1·4%	1·4%
D	1·2%	1·2%	1·3%

1. For a saving of £2400, which bank would pay the most interest?

2. For a saving of £6500, which bank would pay the most interest?

3. For a saving of £400, which bank would pay the least interest?

Exercise 15

A local school conducted a survey to establish the number of pupils who walked to school.

The compound bar chart below gives the result of the data collected.
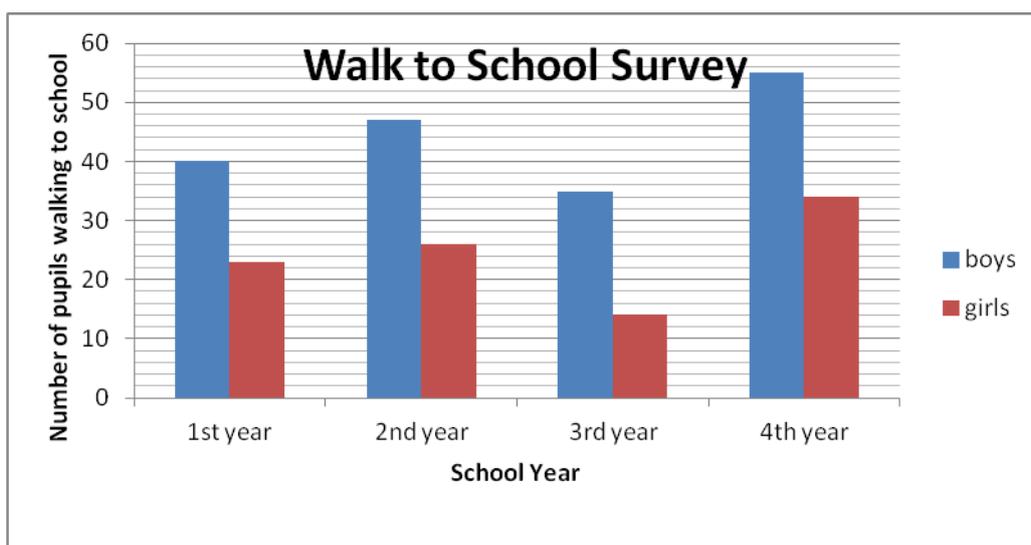
1. How many S2 boys walked to school?

2. How many S4 girls walked to school?

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3. How many S1 pupils walked to school?

4. Compare walking to school by both girls and boys across the year groups.

Exercise 16

Three mobile phone companies each have a contract available at the same price.

	Company A	Company B	Company C
Calls (minutes)	50	100	200
Texts	600	800	1000
Internet (Mb)	100	250	200

1. Erica is looking for a mobile phone contract which will give her 120 minutes of calls, 700 texts, and 150Mb of internet use.

   Which company's plan would be best for her?

2. Alister is looking for a mobile phone contract which will give him 45 minutes of calls, 300 texts, and 70Mb of internet use.

   Which company's plan would be best for him?

3. Tina is looking for a mobile phone contract which will give her 180 minutes of calls, 400 texts, and 180Mb of internet use.

   Which company's plan would be best for her?

Exercise 17

1. George has 2 bags filled with coloured counters.

   Bag A contains 3 red, 4 blue and 5 green counters.

   Bag B contains 5 red, 8 blue and 4 green counters.

   In which bag would you have a better chance of selecting a red counter?

   Justify your answer by calculation.

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2. A teacher asks 2 different classes if they are right-handed or left-handed.

   In class A, 6 out of 25 pupils are left handed.

   In class B, 11 out of 31 pupils are left handed.

   In which class does any one person have a better chance of being left handed?

   Justify your answer by calculation.

3. Mary bought tickets for the school raffle and the Church raffle.

   Out of 500 tickets for the school raffle, Mary had bought 15.

   Out of 200 tickets for the Church raffle, Mary had bought 5.

   In which raffle does Mary have a better chance of being a winner?

   Justify your answer by calculation.

END OF QUESTIONS

<u>Answers</u>

<u>Exercise 1</u>
1. £720   2. £456   3. £216

<u>Exercise 2</u>
1. 1100g   2. 300g   3. 445g

<u>Exercise 3</u>
1. €256   2. €832   3. €576

<u>Exercise 4</u>
1. 1hr 15mins   2. 2hrs 15mins 3. 1hr 40mins   4. 1035   5. 1120   6. 1555
7. 0920   8. 2050   9. 0740

<u>Exercise 5</u>
1. 22cm   2. 26cm   3. 48cm

<u>Exercise 6</u>
1. 112miles   2. 20miles   3. 2miles

<u>Exercise 7</u>
1. £105:£30   2. 126   3. Home: 5670; Away:2430

<u>Exercise 8</u>
1. 12°   2. 17°   3. 21°

<u>Exercise 9</u>
1. 40ml   2. 300ml   3. 14ml

<u>Exercise 10</u>
1. £385   2. £532·20   3. £84

<u>Exercise 11</u>
1. 2·9cm   2. 3·2cm   3. 2·5cm
   54°   32°   66°

<u>Exercise 12</u>
1. £520   2. 760   3. £840

<u>Exercise 13</u>
1. 70   2. 105   3. 140

<u>Exercise 14</u>
1. Bank C   2. Bank B   3. Bank A

<u>Exercise 15</u>
1. 47   2. 34   3. 63   4. More boys than girls walked to school.

<u>Exercise 16</u>
1. C   2. A   3. C

<u>Exercise 17</u>
1. Bag B   2. Class B   3. School

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