Practice Unit Assessment (2) for National 4 Numeracy

1. My account for heating fuel amounted to £360 plus VAT.

VAT is charged at 8%.

How much did I pay altogether to the fuel company?

2. A cardboard box weighs 300g. When 12 tins of beans are added, the total weight of the box and the tins is 5·1kg.
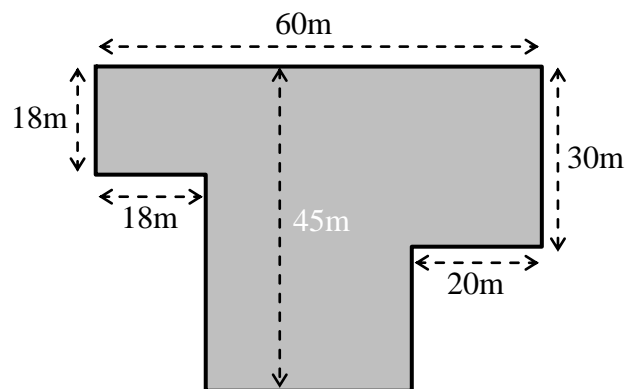
What is the weight of one tin of beans?

3. Irene is going to Australia on holiday. How many Australian dollars will she get for £620 when the exchange rate is 1·54 Australian dollars to a pound?

4. Complete the following table which shows start and end times for three TV programmes.

Start	End	Length
0950	1040	
1255		2h 35 min
	2120	1h 55 min

5. The diagram shows the plan for the playing fields at a sports centre.
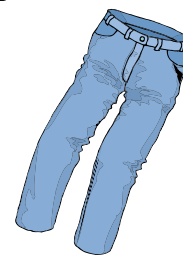

A fence has to be constructed round the perimeter of the playing fields.

The manager has ordered 200 metres of fencing.

Has the manager ordered enough fencing?

Justify your answer by calculation.

6. In a factory a woman can attached labels to a pair of jeans at a rate of 42 pairs per hour.
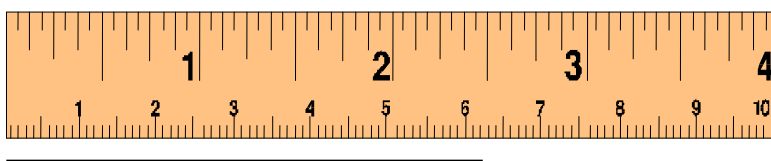

How many pair of jeans can she attached labels to in 10 minutes?

7. To make a fruit punch orange juice and apple juice are mixed together in the ratio 3 : 1.

Beth wanted to make 16 litres of punch and calculates that she would need 12 litres of orange juice.

Is this correct?

Justify your answer by calculation.

8. The temperature of the freezer was -8°C. Due to an electrical fault the temperature rose by 11°C.

What was the temperature then?

9. The line in the diagram has to be extended to be 9·5cm.
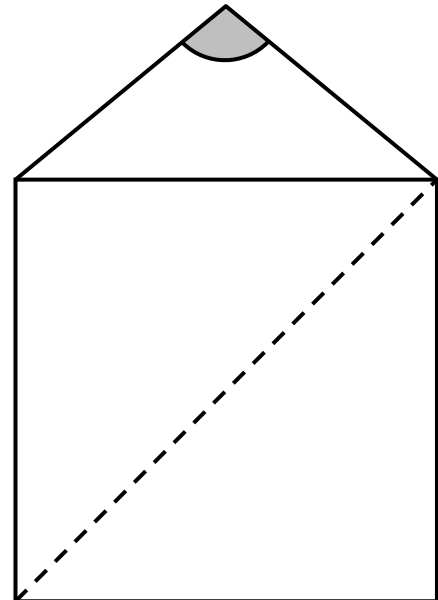

By what length must the line be extended?

10. Two stores are offering deals on the same washing machine.

The details of the deals are shown here.

Shop A	**Shop B**
Deposit: £100	Deposit: Nil
24 payments of £12	30 payments of £13

Which company is giving the best deal?

Justify your answer by calculation.

11. This diagram shows a square and a triangle.

    (a) Measure the length of the diagonal of the square.
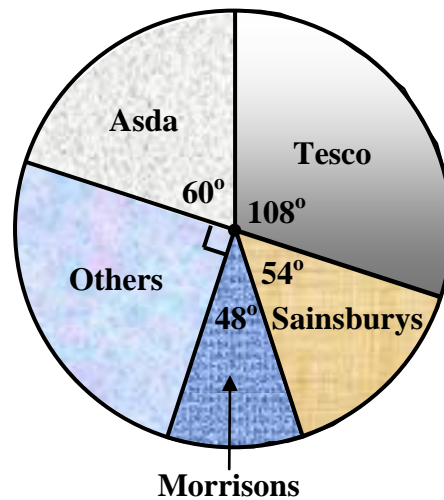
    (b) Measure the size of the shaded angle.

12. Packs of washing sachets come in different sizes.

Pack A has 20 sachets and costs £4.

Pack B has 30 sachets and costs £7.

Write down two ways of buying exactly 60 sachets.

Which of these two ways is the cheaper option and how much cheaper this option?

13. The pie chart shows the approximate share of the market held by several leading supermarkets.
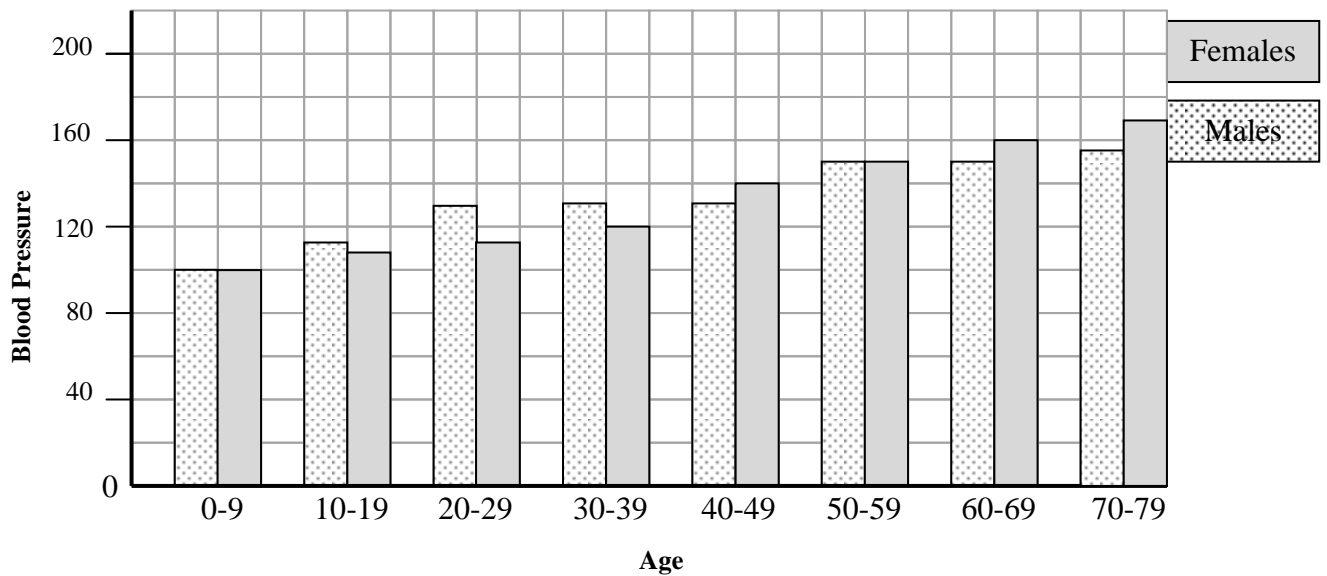

If £9 000 000 000 was spent in Britain's supermarkets last year, calculate how much was spent in Morrisons.

14. This table shows the number of rolls of wallpaper required for different sizes of rooms:

Height from ceiling to floor	Width round room							
	9m	10m	12m	13m	14m	15m	17m	18m
0·75 – 1·00m	2	3	3	3	3	4	4	4
1·00 – 1·25m	3	3	4	4	4	5	5	5
1·25 – 1·50m	3	4	4	5	5	5	6	6
1·50 – 1·75m	4	4	5	5	6	6	6	7
1·75 – 2·00m	4	5	5	6	6	7	7	8
2·00 – 2·15m	4	5	5	6	6	7	7	8
2·15 – 2·38m	4	5	5	6	6	7	7	8

Use the table to decide how many rolls of wallpaper would be needed for a room of height 2·1 metres and width round room of 13 metres.

15. The compound bar graph shows how blood pressure varies with age in males and females.

(a) In which age range is the difference between males and females the greatest?

(b) Describe the relationship between age and blood pressure.

16. Seven pupils in a class had their heights and weights measured. The results are shown in the table.

Name	Height (cm)	Weight (kg)
Liam	168	64
Steven	180	79
Gemma	174	66
Susan	181	75
David	159	78
Ryan	163	69
Emma	145	67

Who weighs more than 70 kg and is less than 180 cm tall?

17. Which of the following is the more likely to occur?

Choosing a club from a pack of cards OR throwing a number less than 3 on an ordinary die.

Justify your answer by calculation.

18. Three classes in a school were given the same test. The pass rate for each class is given here.

Class A: 26 out of 30 pupils passed

Class B: 21 out of 25 pupils passed

Class C: 19 out of 22 pupils passed

Which class had the best pass rate?

Justify your answer by calculation.

End of Question Paper

Practice Unit Assessment (2) for Numeracy   Marking Scheme

		Response
1	Percentage calculation Addition	8% of 360 = £28.80 £388.80
2	Subtraction Division	5100 − 300 = 4800 4800/12 = 400 g
3	Multiplication	$620 \times 1\cdot54 = 954.8$ dollars
4	Subtraction Addition Subtraction	50 mins 1530 1925
5	Perimeter calculation	P = 210 m #No, 200 m < 210 m
6	Division	42/6 = 7 pairs
7	Ratio/proportion Ratio/proportion	16/4 = 4 $4 \times 3 = 12$ # Yes, correct
8	Difference	$3^{o}C$
9	-	#3·3cm
10	Decimal multiplication	288 or 390 388 or 390 #Shop A
11	- -	#Length measure 7·9 cm (nearest 0·1cm) #Angle measure $99^{o}(\pm$ one degree)
12	-	# 3 of pack A OR 2 of pack B 3 of pack A is £2 cheaper than 2 of pack B
13	Fraction	#48/360 of 9000000000 1200000000
14	-	# 6 rolls
15	-	# 20 − 29 # The older you get the higher your blood pressure

16	-	# David
17	-	#Throwing a die Evidence of $13/52 = 0 \cdot 25$ and $2/6 = 0 \cdot 33333\ldots$ or equivalent
18	-	# Class A Evidence of $26/30 = 0 \cdot 86666\ldots$ $21/25 = 0 \cdot 84$ $19/22 = 0 \cdot 86364$ or equivalent