

Year 8 Level 7 Maths Practice Assessment

Name:

Class:

Date:

A Number and the number system

1. (a) One calculation below gives the answer to the question

What is 70 decreased by 3%?

Tick (✓) the correct one.

70×0.03

70×1.3

70×0.97

70×1.03

1 mark (L7/1)

(b) Choose one of the other calculations.

Write a question **about percentages** that this calculation represents.

calculation chosen:

question it represents:

1 mark (L7/1)

B Calculating



2. I put £5400 in the bank.

After a year I received 3% interest

To find my new balance after the first year, I can do this sum:

$£5400 \times \dots = £\dots$

Fill in the multiplier and the new balance after 1 year

1 mark (L7/2)

3.

Fill in the boxes below to give the correct answers.

$0.1 \times \square = 40$

1 mark (L7/3)

$\square \div 0.4 = 10$

1 mark (L7/3)

4. Work out an **estimate** for the value of

$\frac{75.1 \times 8.3}{63.2 + 3.52}$

1 mark (L7/4)

5. Work out:

Use your calculator to work out the value of $\frac{3.54^2}{6.2 \times 1.5}$



Write down all the figures on your calculator display.

----- 1 mark (L7/5)

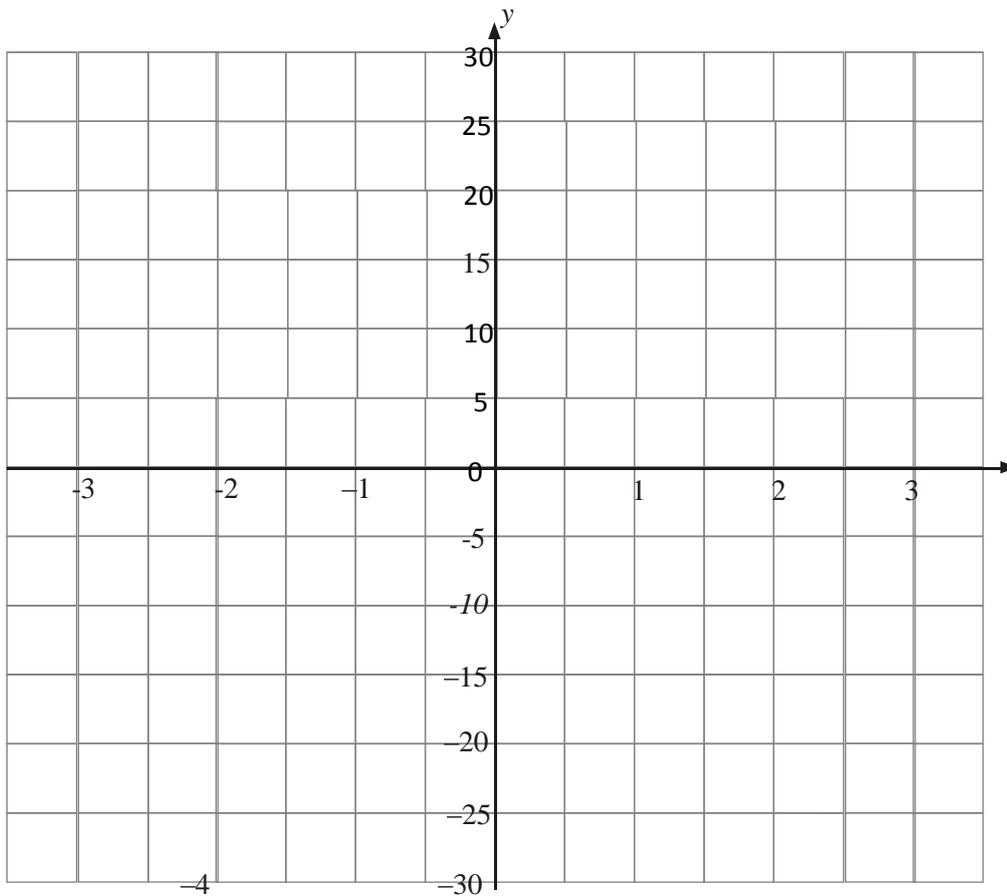
6. (a) Complete the table of values for $y = x^3$



x	-3	-2	-1	0	1	2	3
y	-27	-8		0	1		27

1mark(L7/11)

(b) On the grid, draw the graph of $y = x^3$



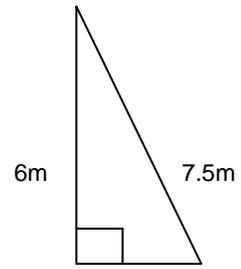
2 marks (L7/11)

D Shape, Space and Measure

7. A ladder is 7.5 metres long.

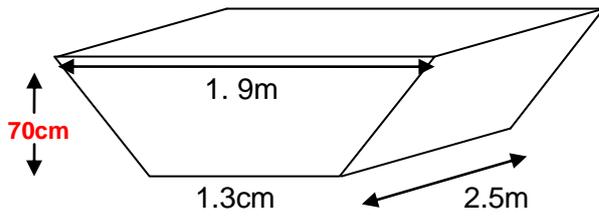
Nick places it against a wall so that it reaches up 6 metres.

What is the distance from the base of the ladder to the wall?



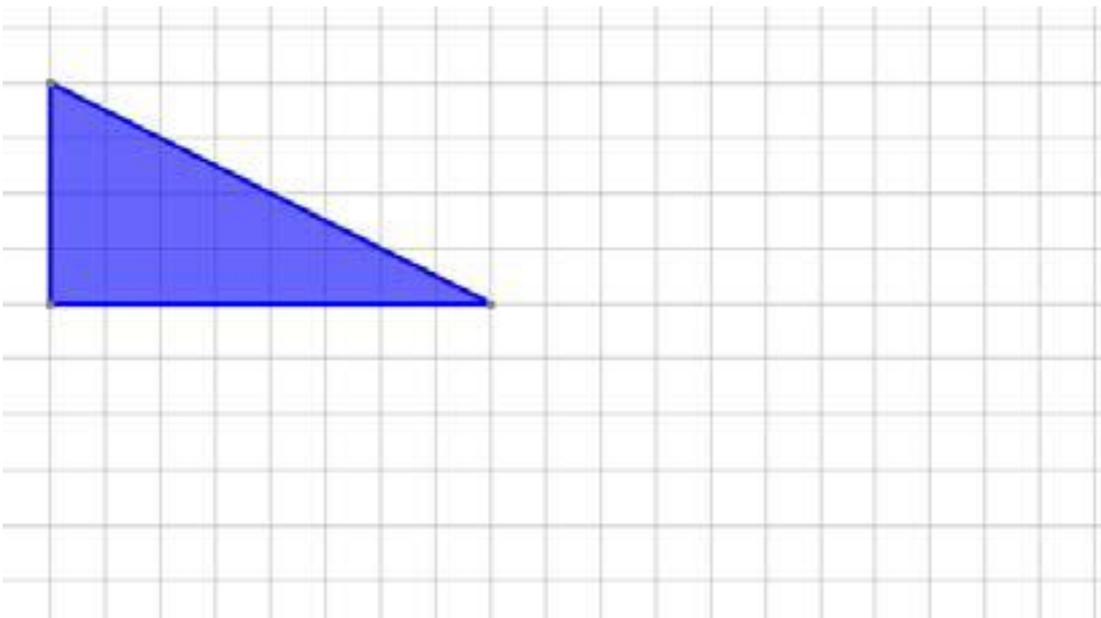
a =cm 2 marks (L7/12)

8. What is the **volume** of this prism? (**Watch the units**)



.....2marks (L7/13)

9. Enlarge this shape by a scale factor of $\frac{3}{4}$



1mark (L7/14)

10. Construct the locus of points that are less than 3 cm away from the line PQ



2marks (L7/15)

11. The weight of a bag of potatoes is 25 kg, correct to the nearest kg.

(a) Write down the smallest possible weight of the bag of potatoes.

..... kg

(b) Write down the largest possible weight of the bag of potatoes.

..... kg



2 marks (L7/16)

12. Joe cycles at an average speed of 20 km/h

a) How far does he cycle in 15 minutes?



.....km



1 mark(L7/17)

b) How long does it take him to cycle 95 km? Give your answer in hours and minutes.

.....1 mark(L7/17)

E Data Handling

13. A student wanted to find out how many pizzas adults ate. He used this question on a questionnaire. 'How many pizzas have you eaten?'

A few

A lot



(a) Write down **two** things that are wrong with this question.

.....

..... 2marks (L7/18)



He gave his questionnaire to 10 of his teachers.

(b) Give **two** reasons why this is not a good way to find out how many pizzas adults ate.

1st Reason.....

.....

2nd Reason.....

.....

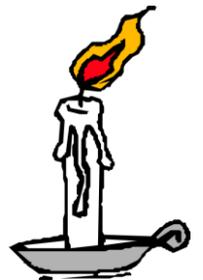
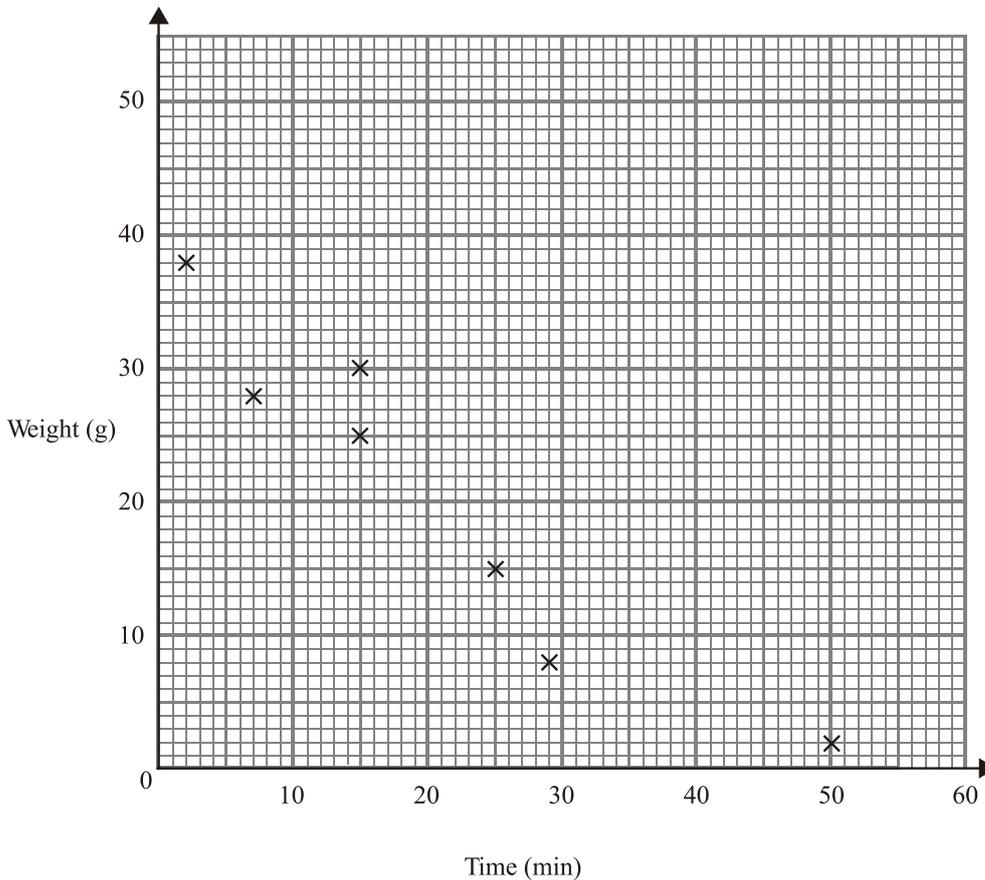
2 marks (L7/18)

14 The table shows the number of minutes each of ten candles burnt before it went out and the weight left of each candle when it went out.

Time (min)	29	15	25	50	2	15	7	30	35	35
Weight (g)	8	25	15	2	38	30	28	20	15	12

(a) Complete the scatter graph. **The first 7 points** have been plotted for you.

1mark(L7/19)



(b) Describe the **correlation** between the time and the weight.

1mark(L7/19)

(c) A candle had a weight of 10 g when it went out.

Use a line of best fit to estimate the number of minutes this candle burnt before it went out.

..... min

15. Josh asked 30 students how many minutes they each took to get to school. The table shows some information about his results.



Time taken (t minutes)	Frequency		
$0 < t \leq 10$	6		
$10 < t \leq 20$	11		
$20 < t \leq 30$	8		
$30 < t \leq 40$	5		

Work out:

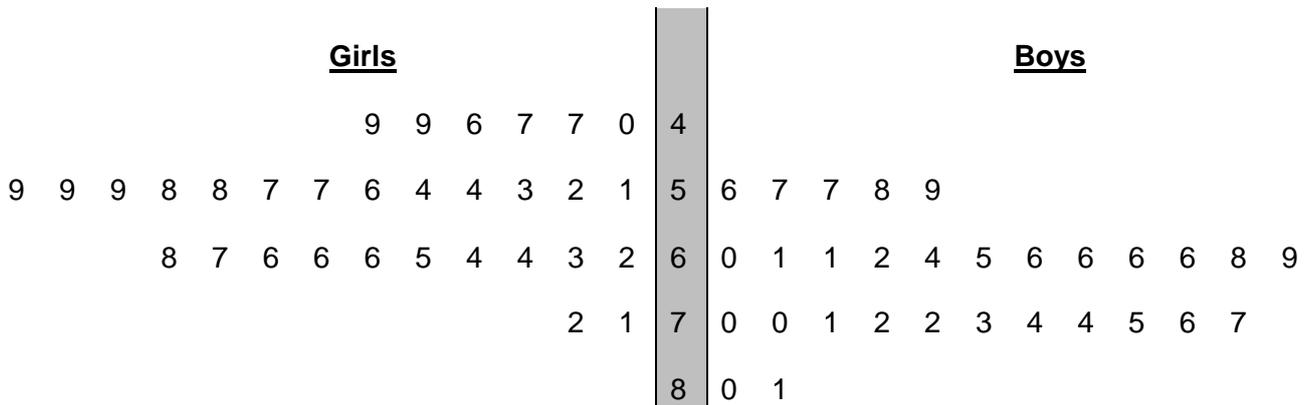
a) The modal class

..... 1mark(L7/20)

b) an estimate for the mean number of minutes taken by the 30 students.

..... seconds
2marks(L7/20)

16. The back to back stem and leaf diagram shows the weights of 30 girls and 30 boys in Year 10



KEY: 5 | 1 means 51kg

Compare the weights of the girls and boys by finding:

(a) The range

Girls' range

Boys' range

1mark (L7/21)

(b) the median of each distribution

Girls' median

Boys' median

1mark (L7/21)

(c) Use your calculations to compare the weights of boys with the weights of the girls:

.....

.....1mark (L7/21)



17. There are 50 cars in the school car park.
5 of the cars are black.



(a) What is the relative frequency of a black car in the car park?

.....

The relative frequency of a red car in the school car park is 0.2

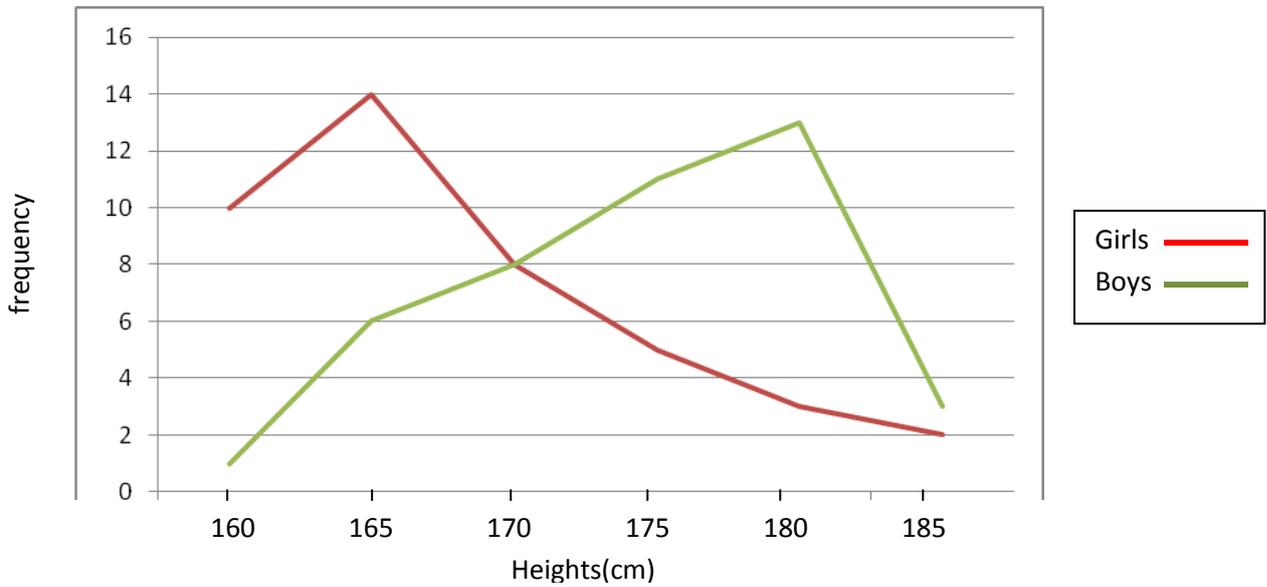
(b) How many red cars are there in the car park?

.....



2 marks (L7/22)

18. These two frequency polygons show the heights of a group of girls and a group of boys.



Compare the heights of the two groups. Give a reason for your answers

.....



1mark (L7/23)