

ELGIN ACADEMY

Prelim Examination 2008 / 09

MATHEMATICS

National Qualifications - Intermediate 1

Maths Units 1, 2 and Applications

Paper 1 (non-calculator)

Time allowed - 35 minutes

Fill in these boxes and read carefully what is printed below

Full name of centre

Town

Forename(s)

Surname

Date of birth

Day Month Year

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Candidate number

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Seat number

1. You may **NOT** use a calculator.
2. Write your working in the spaces provided.
3. Full credit will be given only where the solution contains appropriate working.

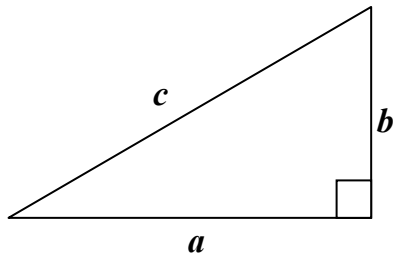
FORMULAE LIST

Circumference of a circle: $C = \pi d$

Area of a circle: $A = \pi r^2$

Curved surface area of a circle: $A = 2\pi rh$

Theorem of Pythagoras:



$$a^2 + b^2 = c^2$$

All questions should be attempted

Marks

1. (a) Find 20% of 260grams.

1

(b) Find $\frac{2}{7}$ of £84

1

(c) Find $-8 + (-5)$

1

2. Cream buns cost £1.05 for 3. How much would 5 cream buns cost?

2

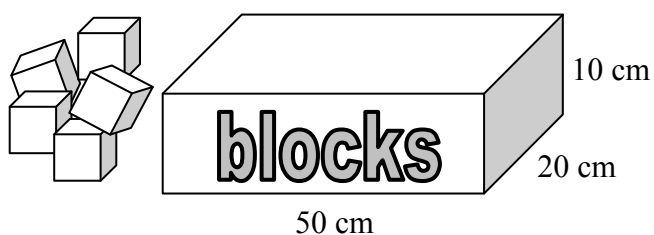
3. Vicky runs at 6 km/h for 2 hours and 30 minutes. What distance will she cover in this time?

3

4. If $a = 3$ and $b = 5$, evaluate $3a^2 - b$.

3

5. Cube shaped building blocks of side 5 cm are packed in boxes measuring 50 cm by 20 cm by 10 cm.



- (a) How many blocks will fit in the box?

3

25 of the blocks are coloured red.

- (b) What is the probability that the first brick chosen from the box will be red?

1

6. A haulage contractor delivers pallets of brick to building sites. The cost of this is found using the following formula:

$$\text{Cost in pounds} = 125 + 7.5 \times \text{number of pallets}$$

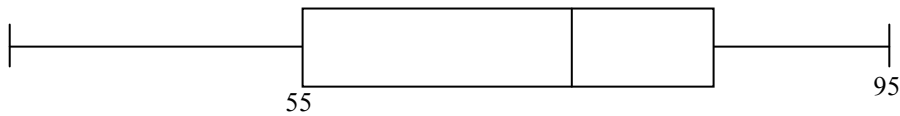
Calculate the cost of delivering 300 pallets of bricks.

3

7. The test marks in a class of 14 pupils were

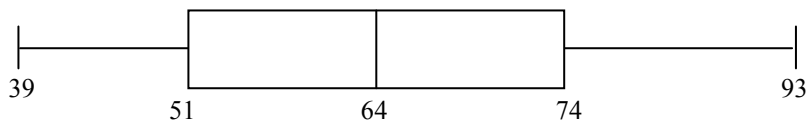
35 45 52 55 57 66 73 75 77 77 82 84 84 95

Complete this box plot to show the marks.



3

Another class sat the same test and the results produced this boxplot.

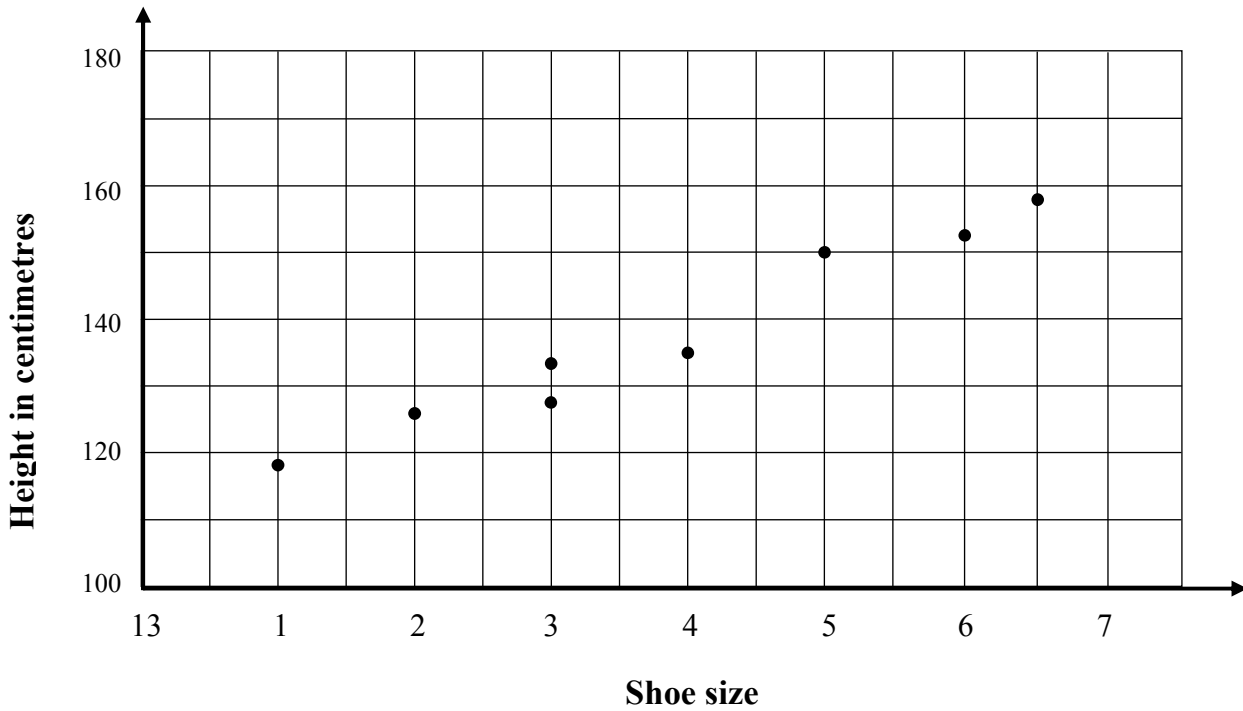


Make a comment to compare the marks of the 2 classes.

1

8. The table and scatter graph shows the relationship between the heights and shoe sizes of 8 pupils.

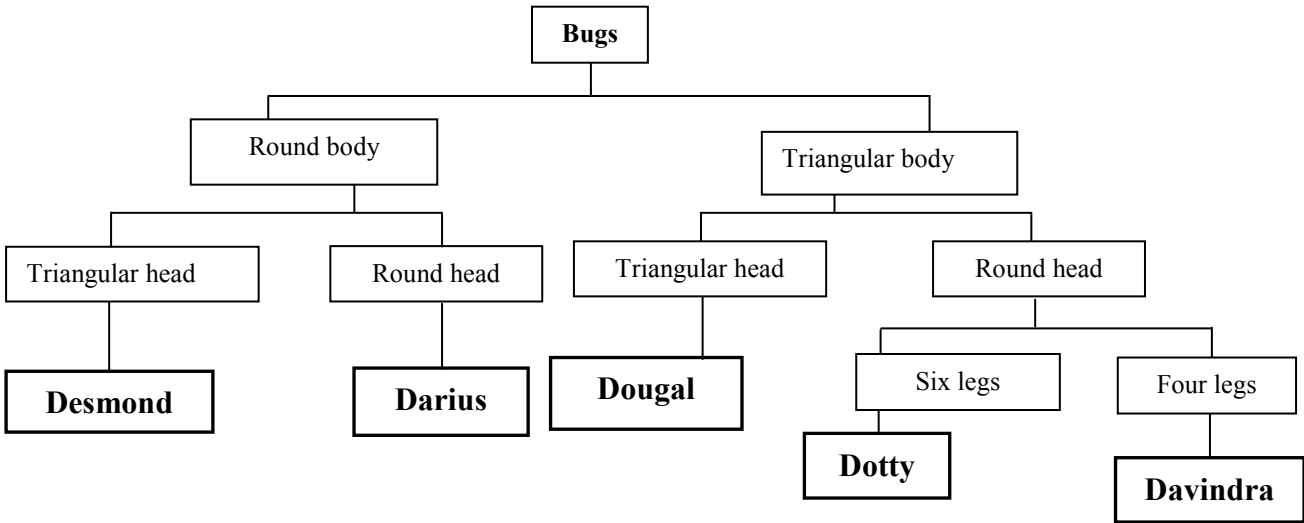
Name	Jim	Sandy	June	Lily	Paul	Joan	Simon	Sally
Shoe Size	3	6	4	6½	3	5	2	1
Height (cm)	127	152	135	158	133	150	126	119



- a. Draw the line of best fit onto the diagram above.
- b. Put a circle round the dot representing the data for Paul.
- c. Use your line to estimate the height of a pupil who takes a size 4½ in shoes.

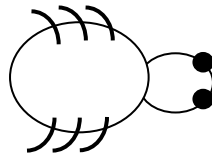
1	
1	
1	

9. The tree diagram is used to classify 'bugs'.



Use the table to answer the following:

(a) Who is this?

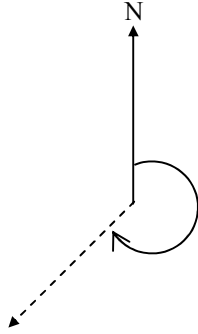


1

(b) Make a drawing of Davindra.

3

10. A ship is facing North and turns through a bearing of 225° .
In which compass direction is it now travelling?



1

END OF QUESTION PAPER