

Name:

Date:

Estimation

GCSE

Edexcel

Mathematics

Grade (9-1)

Mark

Score (%)

— 65

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Materials

For this paper you must have:

- Ruler
- Pencil, Rubber, Protractor and Compass
- Scientific calculator, which you are expected to use when appropriate

Instructions

- Answer all questions
- Answer questions in the space provided
- All working must be shown
- Do all rough work in this book. Cross out any rough work you don't want to be marked

Information

- The marks for the questions are shown in brackets

1 Estimate the sum or difference by rounding each number to the nearest tens.

(a) $426 + 926$

.....

(1)

(b) $739 - 437$

.....

(1)

(Total for question 1 is 2 marks)

2 Estimate the following quantity:

(a) 5.4×8.9

.....

(2)

(b) $9.6 \div 4.6$

.....

(2)

(Total for question 2 is 4 marks)

3 Farah scored 38 point in Monday's football match and 29 points in Tuesday's match.
Estimate how many points she scored altogether.

Leave
blank

.....
(Total for question 3 is 2 marks)

4 Santa has 77 candies. He gave 34 candies to kids.
Estimate how many candies he owns now.

.....
(Total for question 4 is 2 marks)

5 The formula for the force, F on a moving object is $F = ma$ where m is the mass and a is the acceleration.
Estimate the force on an object which has mass 6.97 kg and acceleration 34.05 m/s^2

.....
(Total for question 5 is 2 marks)

6 Estimate the following by rounding to the nearest hundred:
 $642 + 999$

.....
(Total for question 6 is 2 marks)

- 7 Estimate the following by rounding to the nearest tens.
 418×27

Leave
blank

.....
(Total for question 7 is 2 marks)

- 8 There are 326 apples in a store. A shopkeeper sold 167 of the apples by the end of the day.
Estimate how many apples were left by rounding to the nearest hundred.

.....
(Total for question 8 is 2 marks)

- 9 Work out an estimate for the following quantity:

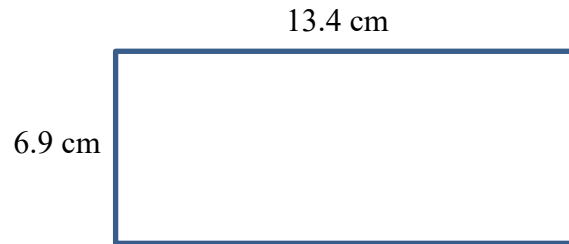
$$6.2 \times \frac{99}{5.4}$$

.....
(Total for question 9 is 3 marks)

10 Work out an estimate for the area of the rectangle below:

(Diagram **NOT** drawn to scale)

Leave
blank



.....cm²

(Total for question 10 is 3 marks)

11 Estimate the value of the following:

$$\frac{79 \times 601}{196}$$

.....
(Total for question 11 is 2 marks)

12 Work out the estimate of the following by rounding each number to the nearest hundred:

(a) $4,628 + 7,492$

.....
(2)

(b) $9,723 - 4,321$

.....
(2)

(Total for question 12 is 4 marks)

13 John buys 73 packets of crisps from Dan's Newsagent at 18p each.

a) Estimate the total cost.

.....
(1)

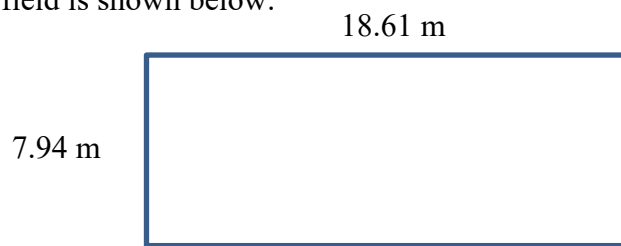
Demi empties her purse and has a total of £10.24.

(b) How many crisps could should buy from Dan's Newsagent?

.....
(1)

(Total for question 13 is 2 marks)

14 Dimensions of Joe's field is shown below:



a) Calculate an estimate for the area of the field.

.....
(2)

b) Each cow needs at least 3.5m^2 of space in a field.

Find out by estimation the maximum number of cows which can be placed in the field.

.....
(3)

(Total for question 14 is 5 marks)

15 Work out an estimate of the following:

$$\frac{7.89 \times 400}{0.9}$$

.....
(Total for question 15 is 2 marks)

16 Approximate the value of the following:

a) $\frac{0.88 + 202}{3.41 + 16.99}$

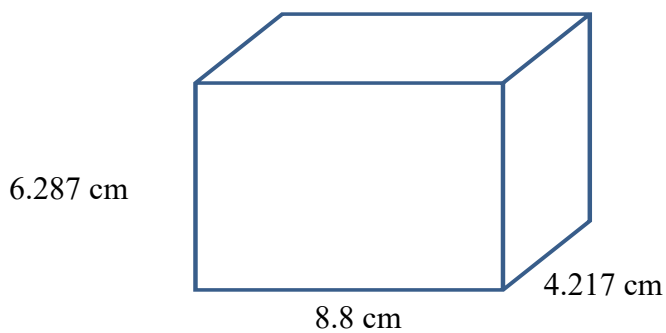
.....
(2)

b) $\frac{0.77 \times 101}{3.7 \times 5.4}$

.....
(2)

(Total for question 16 is 4 marks)

17 Work out an estimate for the volume of the cuboid



.....

(Total for question 17 is 3 marks)

18 Find an estimate answer to the following

$$\frac{46.9 \times 40.9}{3.1 + 1.98}$$

.....
(Total for question 18 is 3 marks)

19 Find an estimate answer to the following

$$\frac{(6.7)^2 - (3.2)^2}{1.987}$$

.....
(Total for question 19 is 4 marks)

20 Find an estimate answer to the following

$$\frac{708 - 43.8}{(4.3)^2 + 3.9}$$

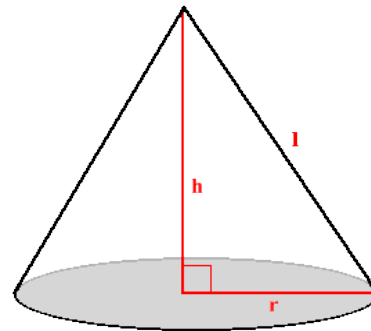
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.....
(Total for question 20 is 3 marks)

21 A cone has a volume of 99 cm^3 .
The radius of the cone is 5.32 cm.
Find out an estimate for the height of the cone.

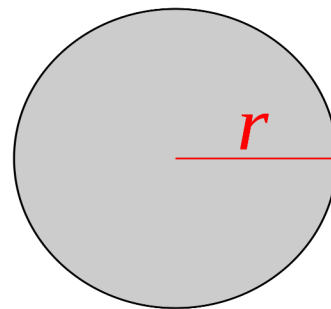
$$\text{Volume of cone} = \frac{1}{3} \pi r^2 h$$

($\pi = 3.14\dots$)



.....
(Total for question 21 is 4 marks)

22 Show that the area of a circle is approximately 243 cm^2 whose radius is 9 cm.
 Formula for area of a circle is $A = \pi r^2$.
 ($\pi = 3.14\dots$)



.....
(Total for question 22 is 2 marks)

23 Work out the following quantity by approximation:

$$\frac{42.319 \times 2.982}{2.017 \times 3.019}$$

.....
(Total for question 23 is 3 marks)