Wakefield Girls' High School

Queen Elizabeth Grammar School

NAME .....

SCHOOL .....

SAMPLE

MATHEMATICS

Time allowed: 1 hour

Instructions to candidates:

- Write your name and school in the spaces above.
- Answer the questions in the spaces provided in this booklet.
- Show all the stages of any calculations.
- Do not spend too long on any one question.
- If you cannot answer a question leave it and attempt the next one.
- Return at the end to those you have left out.
- Supplementary answer paper may be used, but must be handed in.
- Calculators may **NOT** be used.

TOTAL: 65 Marks

		Total	Overall %

Q1. Work out the following.

a) 9736 + 618

.....

1 mark

b) 843 – 67

.....

1 mark

c) 74 × 9

.....

1 mark

d) 413 ÷ 7

.....

1 mark

e) 4^2

.....

1 mark

f) Multiply 784 by 43

.....

2 marks

g) Divide 5395 by 13

.....

2 marks

Q2.

a) Add together **3.7** and **12.6**

.....

1 mark

b) Subtract **6.7** from **26.1**

.....

1 mark

c) Multiply **73.2** by **5**

.....

1 mark

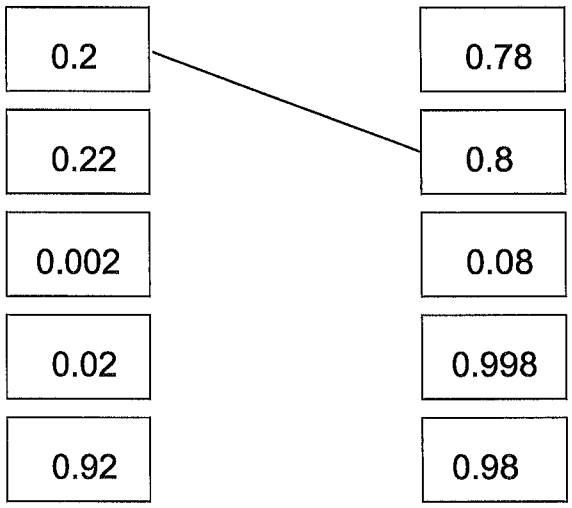
d) Divide **1.38** by **6**

.....

2 marks

Q3. a) Join all the pairs of numbers that **add** together to equal **1**

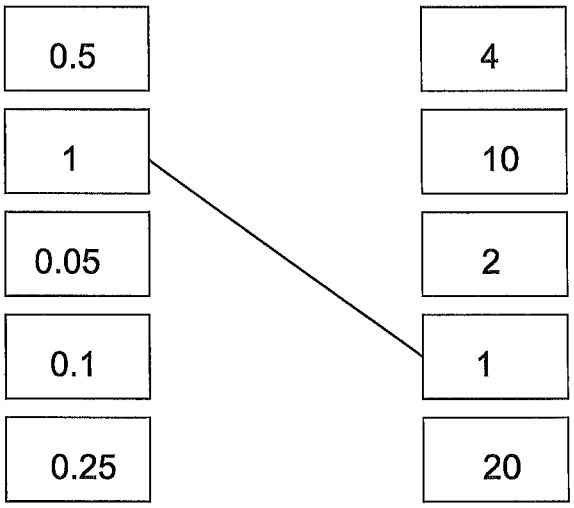
The first one is done for you.



2 marks

b) Now join all the pairs of numbers that **multiply** to equal **1**

The first one is done for you.



2 marks

Q4. a) A **three-digit** number is a **multiple of 4**

What could the number be?

Give an example.

.....

Now give a **different** example.

.....

2 marks

b) A **two-digit** number is a **factor of 90**

What could the number be?

Give an example.

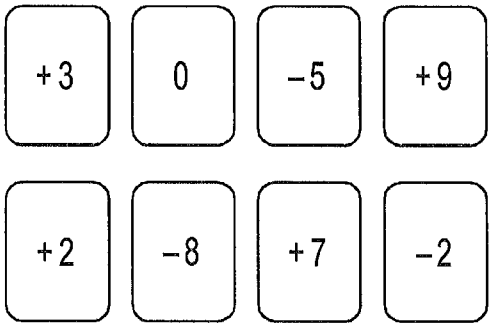
.....

Now give a **different** example.

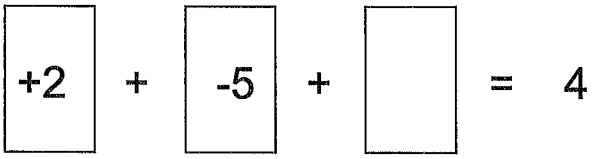
.....

2 marks

Q5. Look at these number cards:

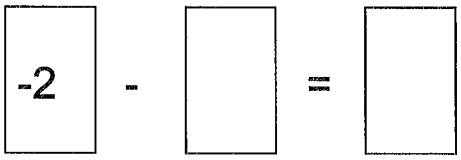


a) Choose a card to give the answer 4.



1 mark

b) Choose a card to give the **lowest** possible answer.
Fill in the card below and work out the answer.



2 marks

Q6. Work out

a) $\frac{2}{7} + \frac{3}{7}$

.....

1 mark

b) $\frac{10}{19} - \frac{8}{19}$

.....

1 mark

c) $\frac{1}{4} + \frac{1}{5}$

.....

2 marks

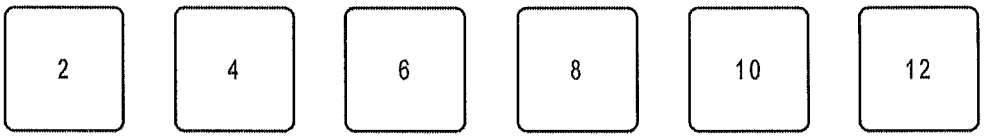
d) Work out $\frac{5}{6} + \frac{2}{5}$

Give your answer as a mixed number in its simplest form.

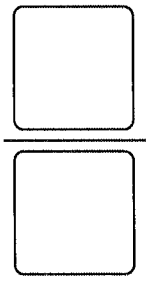
.....

3 marks

Q7. Here are six number cards.



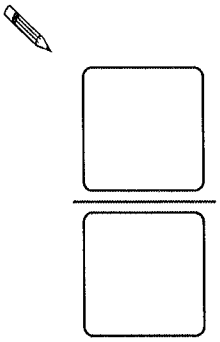
a) Choose two of these six cards to make a fraction that is equivalent to $\frac{1}{4}$



1 mark

b) Choose two of these six cards to

make a fraction that is **greater than** $\frac{1}{2}$ but **less than 1**



1 mark

Q8.

a) Write the missing numbers.

50% of 90 = ...

5% of 90 = ...

1% of 90 = ...

2 marks

b) Work out 56% of 90

You can use part (a) to help you.

.....

1 mark

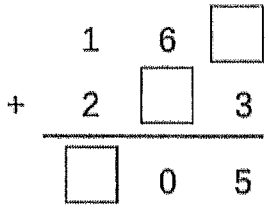
c) Using your answer to (b) to help you **decrease** 90 by 56%

.....

1 mark

Q9.

a) Fill in the missing digits:



2 marks

b) **Circle** the **two** numbers which would **subtract** to give **0.34**

0.79 0.86 0.96 0.52 0.35

1 mark

Q10.

4 pens cost £6.72.

2 pens and 1 pencil cost £3.78.

What is the cost of one pencil?

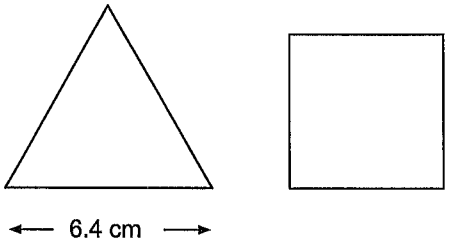
.....

2 marks

Q11.

The diagrams show an **equilateral triangle** and a **square**.

The shapes are not drawn accurately.



The side length of the equilateral triangle is 6.4cm.

The **perimeter** of the square is the **same** as the perimeter of the equilateral triangle.

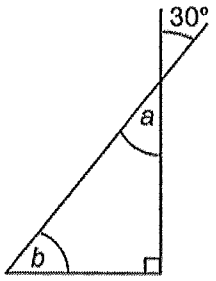
Work out the **side length** of the square.

.....cm

3 marks

Q12.

a) Calculate the size of angles *a* and *b*.



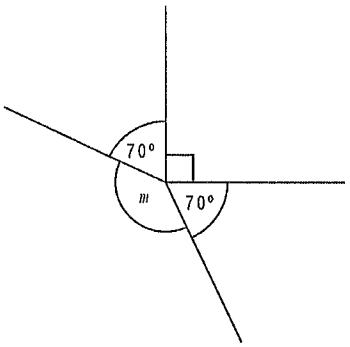
a = ...°

b = ...°

2 marks

b) This diagram is not drawn accurately.

Calculate the size of angle *m*



Show your working.

.....°

2 marks

Q13. A rectangle has an **area** of **18 cm^2**

How long could the sides of the rectangle be?

Give three **different** examples.

..... cm and ..... cm

..... cm and ..... cm

..... cm and ..... cm

3 marks

Q14.

Poppy picks a number less than 20.

She divides it by 3 and then adds 5.

She then multiplies this result by 2.

Her answer is 18.4

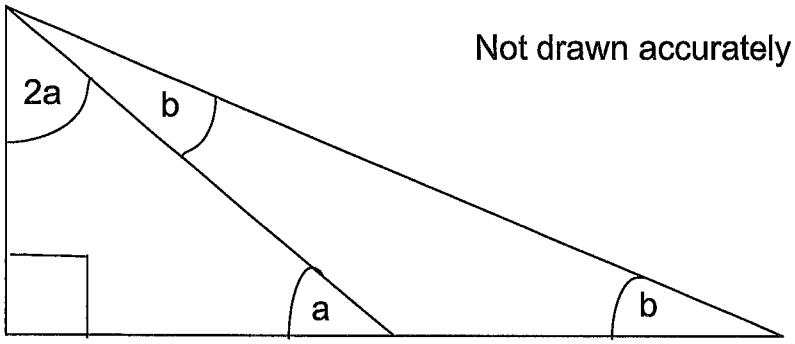
What was the number she started with?

.....

3 marks

Q15.

Look at the triangle.



Work out the value of *b*

.....

3 marks

Q16.

In a box of paper straws

- one-third are red
- one-quarter are pink
- the other 25 are purple

How many paper straws are there in the box?

.....

3 marks

Q17.

Poppy bakes ten cakes for the school fayre.

It costs £1.25 to make a cake.

She cuts each cake into 8 equal portions.

She sells each potion of cake for 50p.

She sells all the cakes.

How much profit does she make altogether?

.....

3 marks

End of questions