2021 ASSESSMENT MATERIALS

GCSE
MATHEMATICS (8300)
FOUNDATION

Number

Total number of marks: 34 per optional item

Instructions:

- This test was designed to be completed without a calculator.

Q5b

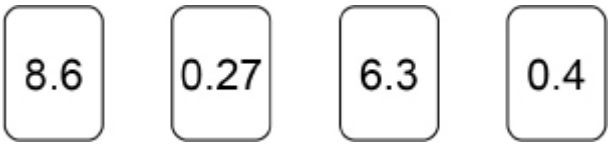
(b) Work out 9.36 × 2 = 18.72

(Total 1 mark)

$$\begin{array}{r} 9.36 \\ \times\ \ 2 \\ \hline 18.72 \end{array}$$

Q8a

Here are four number cards.



(a) Choose **two** of the cards to make the answer to this calculation a whole number.

Include the answer to the calculation.

8.6 + 0.4 = 9

(Total 2 marks)

Q8b

(b) Choose **two** of the cards to make the answer to this calculation as large as possible.

Include the answer to the calculation.

8.6 − 0.27 = 8.33

(Total 2 marks)

Q9a

(a) Write down **all** the factors of 18

(Total 2 marks)

1, 2, 3, 6, 9, 18

Q5a

(a) Work out 364.5 + 17.9 – 2.08

(Total 2 marks)

① 364.5 + 17.9 = 382.4

② 382.40 − 2.08 = 380.32 final answer

Q7

Amy and Brad each have some money.

Carly has no money.

Amy gives £7 to Carly.
Brad gives £5 to Carly.

Amy: £19 − 7 = £12
Brad: £17 − 5 = £12
Carly: £7 + £5 = £12

Now they all have the same amount of money.

How much money did Amy have to begin with?

(Total 2 marks)

Amy has £19 to begin with

Q7a

(a) Work out 1.86 ÷ 6

(Total 1 mark)

$$6 \overline{)\, 1.86} = 0.31$$

0.31

Q8

Sam, Carl and Erik share 40 sweets.

Erik gets the largest share.

What is the **smallest** possible number of sweets that Erik could get?

(Total 2 marks)

For Erik to have the largest share, he needs to have over half the sweets.

∴ Erik's smallest share = 21 sweets

Q13

Work out $4 + 3 \times 5 - 1$

Circle your answer.

16 18 28 34

(Total 1 mark)

BIDMAS / BODMAS

$\Rightarrow 4 + 3 \times 5 - 1 = [4 + (3 \times 5)] - 1$

$= [4 + 15] - 1$

$= 19 - 1 = 18$

Q9

The time in Rio is three hours behind London.

The time in New York is five hours behind London.

What is the time in New York when it is 1.00 am in Rio?

(Total 2 marks)

1.00am Rio = 4.00am London = 11.00pm New York

Q16

Complete the grid so that when you multiply the three numbers in any column, row or diagonal the answer is 1.

10	$\frac{1}{5}$	$\frac{1}{2}$
$\frac{1}{20}$	1	20
2	5	$\frac{1}{10}$

(Total 3 marks)

Q12

Work out $\frac{2}{7} + \frac{6}{7} = \frac{8}{7} = 1\frac{1}{7}$

Circle your answer.

$1\frac{1}{7}$ $\quad \frac{8}{14}$ $\quad \frac{8}{49}$ $\quad 1\frac{5}{7}$

(Total 1 mark)

6 $4 \times £15 = £60$

$2 \times £10 = £20$

Q21

Billy wants to buy these tickets for a show.

$60 + 20 = 80$

4 adult tickets at £15 each

2 child tickets at £10 each

$0.1 \times 80 = 8$ added

$\Rightarrow £80 + 8 = £88$

A 10% booking fee is added to the ticket price.

3% is then added for paying by credit card.

$88 \times 0.03 = £2.64$ added

$£88 + 2.64 = £90.64$

Work out the **total** charge for these tickets when paying by credit card.

(Total 5 marks)

£90.64

Q20

Work out $\sqrt{121} - (13 - 5 \times 2)^2$

$11 - (13 - 10)^2$

(Total 3 marks)

$11 - (3)^2 = 11 - 9 = 2$

Q25

Work out $8\frac{1}{2} \div 2\frac{2}{3} = \frac{17}{2} \div \frac{8}{3} = \frac{17}{2} \times \frac{3}{8} = \frac{51}{16} = 3\frac{3}{16}$

Give your answer as a mixed number.

(Total 4 marks)

Q20a

n is an odd number. = 1, 3, 5, 7, 9, 11, 13, 15 …

p is a prime number. = 2, 3, 5, 7, 11, 13, 17, 19

In each part write down possible values of n and p so that

(a) $n + p$ is a square number.

$n =$ 7 $p =$ 2

(Total 1 mark)