QEHS Maths Department - Foundation
September Baseline Test

Name ANSWERS

Queen Elizabeth High School

Q1. (a) Work out 1058 – 374

0 & 9 1
1058
- 374
684

Answer 684

(1)

(b) Estimate the value of 99.9 ÷ 25.17

round to nearest whole number

100 ÷ 25 = 4

Answer 4

(2)
(Total 3 marks)

Q2. (a) Work out 17 × 5

17
× 5
50
35
85

Answer 85

(1)

(b) Work out 10% of 52

52 ÷ 10 = 5.2

Answer 5.2

(2)

(c) 138 ÷ 6

023
6) 1'13'8

Answer 23

(1)

(d) Write down the answer to $\frac{7}{9} - \frac{5}{9}$

Answer $\frac{2}{9}$

(1)
(Total 5 marks)

Q3. Here is a list of numbers.

3 4 6 8 9 12 18

(a) Write down **four** different numbers from the list that add up to 30.

12 + 8 + 6 + 4 = 30

or 12 + 9 + 6 + 3 = 30

Answer ....., ..., ..., ...

(1)

(b) Write down **one** number in the list that is a multiple of 6.

Answer 6 or 12 or 18

(1)

(c) Write down **all** the numbers in the list that are factors of 18.

1 × (18) (3) × (6) in the list

2 × (9)

Answer 3, 6, 9, 18

(2)

(d) There are two square numbers in the list.

Work out the difference between them.

$2^2 = 4$

$3^2 = 9$ 9 - 4 = 5

Answer 5

(2)
(Total 6 marks)

Q4. Sam has £1.65
Vicki has 75p

How much must Sam give Vicki so that they each end up with the same amount?

1 6 '1 65
- 0.75
0.90 ÷ 2 = 45p

Answer 45 pence

(Total 3 marks)

Q5. You are given that $372 \times 51 = 18\,972$

Use this information to find the answers to

(a) 3720×51

$\uparrow \times 10$

Answer 189,720 **(1)**

(b) $18\,972 \div 5.1$

$18972 \div 51 = 372$ Answer 3,720 **(1)**

(c) 372×102

$18\,972$

$\times \quad 2$

37944 Answer 37944 **(1)**

(Total 3 marks)

Q6. (a) Write down the square of 11.

Answer $11^2 = 121$ **(1)**

$\downarrow$

11×11

(b) Given that $x = 12$

Write down the value of x^2

Answer $12^2 = 144$ **(1)**

$\downarrow$

12×12

(c) Given that $y^3 = 125$

Write down the value of y.

Answer $\sqrt[3]{125} = 5$ **(1)**

(Total 3 marks)

Q7. (a) Simplify $a + a + a$

Answer $3a$ **(1)**

(b) Simplify $8b + 3 - 2b + 7$

$8b - 2b = 6b$

$3 + 7 = 10$

Answer $6b + 10$ **(2)**

(c) Simplify fully $3 \times m \times 2 \times p$

$3 \times 2 = 6$

Answer $6mp$ **(1)**

(d) Solve the equation $\frac{x}{2} = 6$

$x = 6 \times 2 = 12$

Answer $x =$ 12 **(1)**

(Total 5 marks)

Q8. Given that $a = 7$, $b = 3$ and $c = 5$

(a) Work out the value of $a + 2b + 3c$

$7 + (2 \times 3) + (3 \times 5)$

$= 7 + 6 + 15 = 28$

Answer 28 **(2)**

(b) Work out the value of abc

$7 \times 3 \times 5 = 105$

Answer 105 **(2)**

(c) $abcd = 0$

Write down the value of d.

anything timesed by $0 = 0$

Answer 0 **(1)**

(Total 5 marks)

Q9. (a) Solve the equation $x + 5 = 20$

$x = 20 - 5$

$x = 15$

Answer $x =$ 15 **(1)**

(b) Solve the equation $2y + 3y = 20$

$\div 5 \left(5y = 20 \right) \div 5$

$y = 4$

Answer $y =$ 4 **(2)**

(c) Solve the equation $3x + 7 = x + 8$

$2x + 7 = 8$ $\quad -x \quad -x$

$-7 \quad -7$

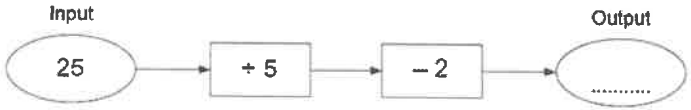
$\div 2 \left(2x = 1 \right) \div 2$

$x = \frac{1}{2}$

Answer $x = \frac{1}{2}$ **(2)**

(Total 5 marks)

Q10. (a) Here is a number machine.



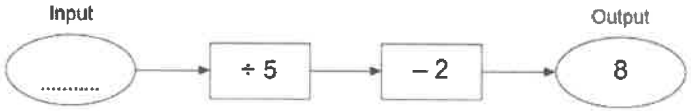
Work out the **output** when the input is 25.

25 ÷ 5 = 5 – 2 = 3

Answer 3

(1)

(b) Here is the same number machine.



Work out the **input** when the output is 8.

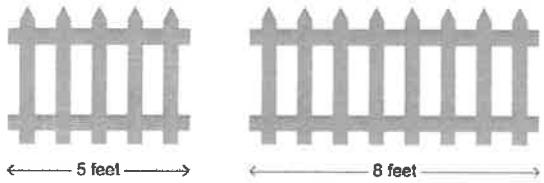
8 + 2 = 10 × 5 = 50

Answer 50

(2)

(Total 3 marks)

Q11. Fence sections are 5 feet or 8 feet long.



The side of a garden is 36 feet long.

How many of each section are needed to fence the side **without** cutting any of the sections?
You **must** show your working.

4 [5 10 15 20 | 8 16] 2

20 + 16 = 36

Answer 4 5 feet sections

2 8 feet sections

(Total 3 marks)

Q12. Buses to Acton leave a bus station every 24 minutes.
Buses to Barton leave the same bus station every 20 minutes.

A bus to Acton and a bus to Barton both leave the bus station at 9 00 am.

When will a bus to Acton and a bus to Barton next leave the bus station at the same time?

A 9.00 9.24 9.48 10.12 10.36 11.00

B 9.00 9.20 9.40 10.00 10.20 10.40

11:00

Answer 11:00

(Total 3 marks)

Q13. **(a)** Work out $\frac{1}{3} \times \frac{1}{4}$

$\frac{1 \times 1}{3 \times 4} = \frac{1}{12}$

[1 mark]

Answer $\frac{1}{12}$

(b) Work out $2\frac{1}{3} + 1\frac{3}{4}$

Give your answer as a mixed number.

[3 marks]

$\frac{7}{3} + \frac{7}{4} = \frac{28}{12} + \frac{21}{12} = \frac{49}{12} = 4\frac{1}{12}$

Answer

Q14. 600 people visit a cinema.

$\frac{1}{4}$ go to screen 1. 600 ÷ 4 = 150

40% go to screen 2. 10% = 60, 40% = 240

The rest go to screen 3.

How many people go to screen 3?

150 + 240 = 390

600 − 390 = 210

210

[4 marks]

END OF TEST