Non-Calculator

Q1.

(a) Circle the value of 2^4

           6   8   16   24

(b) Circle the value of 5^3

(1)

         15   25   53   125

(c) Circle the value of $\sqrt{196}$

(1)

         13   14   16   98

(1)
(Total 3 marks)

Q2.

Complete this table.

3^0	3^1	3^2	3^3	3^4	3^5	3^6	3^7
1	3	9			243	729	2187

(Total 2 marks)

Q3.

Work out the value of $\left(\sqrt{5}\right)^2 + \left(\sqrt{6}\right)^2 - \left(\sqrt{7}\right)^2$
You **must** show your working.

_____

_____

_____

Answer _____

(Total 1 mark)

Q4.

Simplify $3^4 \times 3^4$

Circle the answer.

3^8 9^8 3^{16} 9^{16}

(Total 1 mark)

Q5.

Work out $\sqrt{2^6 + 6^2}$

Circle your answer.

10 14 50 100

(Total 1 mark)

Calculator

Q6.

Circle the value of 2^5

10 25 32 64

(Total 1 mark)

Q7.

Circle the cube number.

3 8 9 16

(Total 1 mark)

Q8.

Work out $5^{12} \div 5^3 \times 5^2$ as a power of 5
Circle your answer.

5^6 5^8 5^9 5^{11}

(Total 1 mark)

Q9.

Show that 268 can be written as the sum of a power of 3 and a square number.

_____

_____

_____

_____

_____

Answer _____

(Total 2 marks)

Q10.

Show that there are **exactly** five 3-digit cube numbers.

_____

_____

_____

_____

_____

_____

(Total 3 marks)

Q11.

(a)   Work out the value of 7^3

_____

Answer _____

(1)

(b)   The sum of two consecutive cube numbers is 341.

Work out the two numbers.

_____

_____

_____

_____

Answer _____ and _____

(2)

(Total 3 marks)

Q12.

Work out 81 as a power of 3

Circle your answer.

3^3 3^4 3^5 3^6

(Total 1 mark)

Q13.

Work out the square root of 100 million.

Circle your answer.

1000 10 000 100 000 1 000 000

(Total 1 mark)

Q14.

Use your calculator to work out

(a) $\sqrt{576}$

Answer _____

(1)

(b) $2.3^2 + \sqrt{5}$

Answer _____

(1)

(c) $\dfrac{1}{0.4^2}$

Answer _____

(1)

(Total 3 marks)

Q15.

(a)   Circle the number that is an integer power of 4

2   8   16   32

(1)

(b)   Work out $5^{12} \div 5^3 \times 5^2$ as a power of 5
Circle your answer.

5^6 5^8 5^9 5^{11}

(1)
(Total 2 marks)

Q16.

Which of these is a cube number?

Circle your answer.

3   9   27   100

(Total 1 mark)