

Powers and Roots

For Pearson Edexcel GCSE Mathematics (1MA1) • Foundation tier

Name _____

Total marks: **23**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

1 (a) Write down the value of 9^2

.....
(1)

(b) Write down the value of $\sqrt{49}$

.....
(1)

(c) Write down the value of 4^3

.....
(1)

(d) Write down the value of $\sqrt[3]{1000}$

.....
(1)

(Total for Question 1 is 4 marks)

2 Here is a list of numbers.

4 8 12 16 27 36 64 100

From the list, write down

(a) a number that is both a square number and a cube number,

.....
(1)

(b) all the numbers that are powers of 4

.....
(1)

(Total for Question 2 is 2 marks)

3 Work out $\sqrt{2^4 + 3^2}$

.....
(2)

(Total for Question 3 is 2 marks)

- 4 (a) Use your calculator to work out $\frac{\sqrt{27.8}}{1.6^3}$
Write down all the figures on your calculator display.

.....
(2)

- (b) Write your answer to part (a) correct to 3 significant figures.

.....
(1)
(Total for Question 4 is 3 marks)

- 5 Find the value of n when $2^n = 128$

$n =$
(1)
(Total for Question 5 is 1 mark)

- 6 Write down a square number between 50 and 70

.....
(1)
(Total for Question 6 is 1 mark)

- 7 Priya says 2^3 is bigger than 3^2

Is Priya correct?

You must show your working.

.....

(2)

(Total for Question 7 is 2 marks)

- 8 Find the value of $\sqrt{0.16} + 0.2^2$

.....

(2)

(Total for Question 8 is 2 marks)

- 9 Estimate the value of $\sqrt{90}$ to 1 decimal place.

You must show your working.

.....

(2)

(Total for Question 9 is 2 marks)

- 10** Write these numbers in order of size.
Start with the smallest number.

$$2^5 \quad 5^2 \quad \sqrt{900} \quad 3^3$$

.....

(2)

(Total for Question 10 is 2 marks)

- 11** Show that $3^4 - 2^4 = 5 \times 13$

(2)

(Total for Question 11 is 2 marks)
