

Question 1

(a) the square of 6

.....  
(a) \_\_\_\_\_ [1]

(b)  $\sqrt{64}$

.....  
(b) \_\_\_\_\_ [1]

(e) the cube root of 27

.....  
(e) \_\_\_\_\_ [1]

(f) the next prime number after 23

.....  
(f) \_\_\_\_\_ [1]

Question 2

(a) Write 200 as a product of its prime factors, using powers.

.....  
.....  
.....  
.....  
(a) \_\_\_\_\_ [3]

(b) Simplify each of the following.

(i)  $y^5 \times y^3$

.....  
.....  
(b)(i) \_\_\_\_\_ [1]

(ii)  $\frac{y^5}{y^3}$

.....  
.....  
(ii) \_\_\_\_\_ [1]

Question 3:

Here is a list of numbers.

6    7    9    11    13    20    26    47    51

(a) From this list, write down

(i) an even number,

(a)(i) \_\_\_\_\_ [1]

(ii) a square number,

(ii) \_\_\_\_\_ [1]

(iii) two numbers that add to give 37,

.....

(iii) \_\_\_\_\_ and \_\_\_\_\_ [1]

(iv) two numbers that subtract to give 25.

.....

(iv) \_\_\_\_\_ and \_\_\_\_\_ [1]

(b) (i) From the same list, write down a multiple of 5.

(b)(i) \_\_\_\_\_ [1]

(ii) Explain how you know that this is a multiple of 5.

\_\_\_\_\_

\_\_\_\_\_ [1]

(c) (i) Which number in the list is a factor of 33?

(c)(i) \_\_\_\_\_ [1]

(ii) Explain how you know that this is a factor of 33.

\_\_\_\_\_

\_\_\_\_\_ [1]

Question 4 - CALCULATOR

(ii)  $2^5$

.....

(ii) \_\_\_\_\_ [1]

(iii)  $5^3$

.....

(iii) \_\_\_\_\_ [1]

(b) Work out.

$$2.1^2 + \sqrt{0.36}$$

.....

.....

(b) \_\_\_\_\_ [1]

(c) (i) Work out.

$$\frac{1}{0.41^2}$$

.....

Write down all the numbers on your calculator display.

(c)(i) \_\_\_\_\_ [1]

(ii) Write your answer to part (c)(i) correct to 1 decimal place.

(ii) \_\_\_\_\_ [1]

Question 5

Write down

a common multiple of 30 and 60.

(e) \_\_\_\_\_ [1]

Question 6

Work out.

(a)  $10^4$

.....

(a) \_\_\_\_\_ [1]

(b)  $\sqrt[3]{125}$

.....

(b) \_\_\_\_\_ [1]

Question 7

(a)  $t^2 \times t^7$

.....

(a) \_\_\_\_\_ [1]

(b)  $\frac{p^6}{p^2}$

.....

(b) \_\_\_\_\_ [1]

Question 8

Work out.

(a)  $7^2$

.....

(a) \_\_\_\_\_ [1]

(b)  $2^4 + \sqrt{100}$

.....

(b) \_\_\_\_\_ [2]

Question 9

As a product of prime factors,

$$24 = 2 \times 2 \times 2 \times 3.$$

(a) Write 40 as a product of prime factors.

.....

.....

(a) \_\_\_\_\_ [2]

(b) (i) Work out the highest common factor (HCF) of 24 and 40.

.....

.....

(b)(i) \_\_\_\_\_ [2]

(ii) Work out the least common multiple (LCM) of 24 and 40.

.....

.....

(ii) \_\_\_\_\_ [2]