## Questions

**Q1.**

(a) Work out $\dfrac{2}{5} + \dfrac{1}{4}$

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**(2)**

(b) Write down the value of $2^{-3}$

.................................................................

**(1)**

**(Total for question = 3 marks)**

**Q2.**

(a) Write down the square of 8

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**(1)**

(b) Write down the value of $10^3$

.................................................................

**(1)**

(c) Estimate the value of $\sqrt{20}$

.................................................................

**(1)**

**(Total for Question is 3 marks)**

**Q3.**

(a) Write down the value of $7^2$

.................................................................

**(1)**

(b) Write down the value of $\sqrt{25}$

.................................................................

**(1)**

(c) Write down the value of $2^3$

.................................................................

**(1)**

**(Total for Question is 3 marks)**

**Q4.**

Find the value of $(2.8 - 0.45)^2 + \sqrt[3]{5.832}$

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**(Total for question = 2 marks)**

**Q5.**
Find the value of $5^4$

...............................................................

**(Total for question = 1 mark)**

**Q6.**
The same number is missing from each box.

$$\boxed{\phantom{0}} \times \boxed{\phantom{0}} \times \boxed{\phantom{0}} = 343$$

(a)  Find the missing number.

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(1)

(b)  Work out $4^4$

...............................................................

(1)

**(Total for question is 2 marks)**

**Q7.**
(a) Work out the value of $3.1^4$

...............................................................

(1)

(b) Simplify $(p^3)^2$

...............................................................

(1)

(c) Simplify $t^8 / t^3$

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(1)

$2^3 \times 2^n = 2^9$

(d) Work out the value of $n$. ...............................................................

(1)

**(Total for Question is 4 marks)**

**Q8.**

Write down an example to show that each of the following two statements is **not** correct.

(a) The factors of an even number are always even.

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(1)

(b) All the digits in odd numbers are odd.

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(1)

**(Total for question = 2 marks)**

**Q9.**

Express 56 as the product of its prime factors.

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**(Total for question = 2 marks)**

**Q10.**

Write down two factors of 12

.................... , ....................

**(Total for question = 1 mark)**

**Q11.**

Here is a list of eight numbers

4   5   4   25   29   30   33   39   40

From the list, write down

(i) a factor of 20

. . . . . . . . . . . . . . . . . . . . .

(ii) a multiple of 10

. . . . . . . . . . . . . . . . . . . . .

(iii) the prime number that is greater than 15

. . . . . . . . . . . . . . . . . . . . .

**(Total for Question is 3 marks)**

**Q12.**

Here is a list of numbers.

5    15    30    50    60    90    100    125

From the numbers in the list, write down

(i) two different numbers that add up to an even number

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(ii) a multiple of 20

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(iii) a factor of 45

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(iv) a cube number

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**(Total for Question is 4 marks)**

**Q13.**

Find the Highest Common Factor (HCF) of 24 and 60

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**(Total for question = 2 marks)**

**Q14.**

(a)  Find the lowest common multiple (LCM) of 40 and 56

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**(2)**

$A = 2^3 \times 3 \times 5$      $B = 2^2 \times 3 \times 5^2$

(b)  Write down the highest common factor (HCF) of $A$ and $B$.

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**(1)**

**(Total for question = 3 marks)**

**Q15.**

Tom and Amy set the alarms on their phones to sound at 6.45 am.

Both alarms sound together at 6.45 am.
Tom's alarm then sounds every 9 minutes.
Amy's alarm then sounds every 12 minutes.

At what time will both alarms next sound together?

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**(Total for question = 3 marks)**

**Q16.**

Write 36 as a product of its prime factors.

...........................................................

**(Total for question = 2 marks)**

**Q17.**

(a)  Express 180 as a product of its prime factors.

...........................................................

(3)

Martin thinks of two numbers.

He says,

   "The Highest Common Factor (HCF) of my two numbers is 6
   The Lowest Common Multiple (LCM) of my two numbers is a multiple of 15"

(b)  Write down **two** possible numbers that Martin is thinking of.

......................... , .........................

(2)

**(Total for Question is 5 marks)**