



Q4

Answer :

(i) Resolving 1575 into prime factors:

$$1575 = 3 \times 3 \times 5 \times 5 \times 7 = 3^2 \times 5^2 \times 7$$

Thus, to get a perfect square, the given number should be divided by 7

$$\text{New number obtained} = (3^2 \times 5^2) = (3 \times 5)^2 = (15)^2$$

Hence, the new number is the square of 15

(ii) Resolving 9075 into prime factors:

$$9075 = 3 \times 5 \times 5 \times 11 \times 11 = 3 \times 5^2 \times 11^2$$

Thus, to get a perfect square, the given number should be divided by 3

$$\text{New number obtained} = (5^2 \times 11^2) = (5 \times 11)^2 = (55)^2$$

Hence, the new number is the square of 55

(iii) Resolving 4851 into prime factors:

$$4851 = 3 \times 3 \times 7 \times 7 \times 11 = 3^2 \times 7^2 \times 11$$

Thus, to get a perfect square, the given number should be divided by 11

$$\text{New number obtained} = (3^2 \times 7^2) = (3 \times 7)^2 = (21)^2$$

Hence, the new number is the square of 21

(iv) Resolving 3380 into prime factors:

$$3380 = 2 \times 2 \times 5 \times 13 \times 13 = 2^2 \times 5 \times 13^2$$

Thus, to get a perfect square, the given number should be divided by 5

$$\text{New number obtained} = (2^2 \times 13^2) = (2 \times 13)^2 = (26)^2$$

Hence, the new number is the square of 26

(iv) Resolving 4500 into prime factors:

(v) Resolving 4500 into prime factors:

$$4500 = 2 \times 2 \times 3 \times 3 \times 5 \times 5 \times 5 = 2^2 \times 3^2 \times 5^3 \times 5$$

Thus, to get a perfect square, the given number should be divided by 5

$$\text{New number obtained} = (2^2 \times 3^2 \times 5^2) = (2 \times 3 \times 5)^2 = (30)^2$$

Hence, the new number is the square of 30

(vi) Resolving 7776 into prime factors:

$$7776 = 2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 3 \times 3 \times 3 = 2^5 \times 3^5 \times 3 = 2^2 \times 2^2 \times 2 \times 3^2 \times 3^2 \times 3$$

Thus, to get a perfect square, the given number should be divided by 6 which is a product of 2 and 3

$$\text{New number obtained} = (2^2 \times 2^2 \times 3^2 \times 3^2) = (2 \times 2 \times 3 \times 3)^2 = (36)^2$$

Hence, the new number is the square of 36

(vii) Resolving 8820 into prime factors:

$$8820 = 2 \times 2 \times 3 \times 3 \times 5 \times 7 \times 7 = 2^2 \times 3^2 \times 5 \times 7^2$$

Thus, to get a perfect square, the given number should be divided by 5

$$\text{New number obtained} = (2^2 \times 3^2 \times 7^2) = (2 \times 3 \times 7)^2 = (42)^2$$

Hence, the new number is the square of 42

(viii) Resolving 4056 into prime factors:

$$4056 = 2 \times 2 \times 2 \times 3 \times 13 \times 13 = 2^3 \times 2 \times 3 \times 13^2$$

Thus, to get a perfect square, the given number should be divided by 6, which is a product of 2 and 3

$$\text{New number obtained} = (2^2 \times 13^2) = (2 \times 13)^2 = (26)^2$$

Hence, the new number is the square of 26

Q5

Answer :

The first three digit number (100) is a perfect square. Its square root is 10.

The number before 10 is 9.

Square of 9 = $(9)^2 = 81$

Thus, the largest 2 digit number that is a perfect square is 81.

Q6

Answer :

The largest 3 digit number is 999.

The number whose square is 999 is 31.61.

Thus, the square of any number greater than 31.61 will be a 4 digit number.

Therefore, the square of 31 will be the greatest 3 digit perfect square.

$$31^2 = 31 \times 31 = 961$$

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