

Revision Worksheet

Date - 19/08/2020

Chapter – 1

Rational & Irrational Number

Solution

MCQ

1. b) $\frac{17}{19}$	2. c) 1.05	3. d) 1, 2 & 3
4. c) 9	5. a) 181	6. b) 0.1
7. b) 4	8. b) 5	9. a) √2
10. b) 7.12	11. a) $\frac{12}{17}$	12. b) 1.10
13. d) 1.05	14. a) a	15. b) Square
16. d) Square fraction 17. a) $\frac{1}{7}$ 18		18. c) 64
19. b) 313	20. a) $8\frac{1}{5}$	

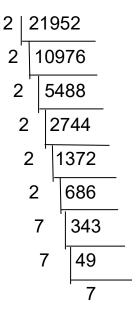
Creative Question

1. a) First number = 21952

We know that, the number consisting of digit 2 or 3 or 7 or 8 at the extreme right that is, in the unit place can never be a perfect square.

As the number 21952 has digit 2 in its unit place, the number is not perfect square.

b) Here, first number = 21952



 $21952 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 7 \times 7 \times 7$

 $= (2 \times 2) \times (2 \times 2) \times (2 \times 2) \times (7 \times 7) \times 7$

The number 21952 is not perfect square. If we divide the number by 7, the required number will be perfect square.

Ans : 7.

c) Second number = 5605
7
$$\overline{56} \ \overline{05} \ (74)$$

49
144 7 05
576
129

We observe here that, $(74)^2 < 5605 < (75)^2$

The required number to be added = $(75)^2 - 5605$

Ans: 20.

2. a) The price of 1 plant = 12 Taka

∴ " " " 595 " = (595 × 12) Taka

= 7140 Taka

Ans: He spent 7140 Taka.

Ans: 19 plants.

c) The amount of money spent 7140 taka

The number of plants = 595

∴ Difference = 7140 – 595 = 6545

8
$$\overline{65} \, \overline{45} \, (80)$$

160 $\overline{145}$
 $\overline{145}$
We observe that, $(80)^2 < 6545 < (81)^2$

: The required number = $(81)^2 - 6545$ = $(81 \times 81) - 6545$

Ans : 16.

3. a) $2 \begin{bmatrix} 6 \\ 3 \end{bmatrix}$ 6 = 1 × 6 = 2 × 3 ∴ The factors of 6 = 1, 2, 3, 6

Ans: 1, 2, 3, 6.

b) The L.C.M. of 5, 6 and 9 :

The L.C.M. of 5, 6 and 9 = $3 \times 5 \times 2 \times 3 = (3 \times 3) \times 2 \times 5$

2 and 5 have no pair. So we cannot arrange in square form of the value of L.C.M. If we multiply the L.C.M. with 2 and 5 then the product will become perfect square number.

: We have to multiply the L.C.M. with $(2 \times 5) = 10$.

Ans : 10.

c) The L.C.M. of 5, 6 and 9 :

The L.C.M. of 5, 6 and 9 = $3 \times 5 \times 2 \times 3 = (3 \times 3) \times 2 \times 5 = 90$

We observe that, $(9)^2 < 90 < (10)^2$

 \therefore The required number = $(10)^2 - 90$

Ans : 10.

4. a)

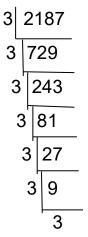
2 384

 $\therefore 384 = 2 \times 3 = (2 \times 2) \times (2 \times 2) \times (2 \times 2) \times 2 \times 3$

Since 2 and 3 have no pair, so 384 is not a perfect square number.

Ans : 384 is not a perfect square number.

b)



$$\therefore 2187 = 3 \times 3 = (3 \times 3) \times (3 \times 3) \times (3 \times 3) \times 3$$

Since 3 has no pair, so 2187 is not a perfect square number. Hence, by multiplying with at least 3 would make the number a perfect square number.

Ans : 3.

C)

We observe here that, $(46)^2 < 2187 < (47)^2$

The required number to be added = $(47)^2 - 2187$

Ans : 22.

5. a) $3 \begin{vmatrix} 9 \\ 3 \end{vmatrix}$ Here, 9 = 1 × 9 = 3 × 3 ∴ Factors of 9 = 1, 3, 9 Ans : 1, 3, 9

b) L.C.M of 4, 5, $9 = 4 \times 5 \times 9$

Here, 4, 5 and 9 have no pair. Hence, by multiplying with at least $4 \times 5 \times 9$ =180 would make the number a perfect square number.

Ans: 180 soldiers.

c) L.C.M of 4, 5, 9 = 4 × 5 × 9 =180

Now,

We observe here that, $(13)^2 < 180 < (14)^2$

The required number of soldiers to be added = $(14)^2$ - 180

$$= (14 \times 14) - 180$$

 $= 196 - 180 = 16$

Ans : 16 soldiers.

6. a) Given,

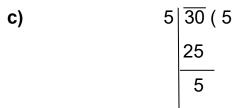
The number of students = x Monthly cost of each students = 10x \therefore Total cost = $10x \times x = 10x^2$ Ans : $10x^2$. **b)** From 'a' we get, Total cost = $10x^2$

ATQ,

```
10x^2 = 9000
Or, x^2 = 9000 \div 10
Or, x^2 = 900
Or, x = \sqrt{900}
Or, x = 30
```

 \therefore The number of students = 30

Ans : 30 students.



Here, remainder 5, so 30 is not a perfect square number.

If 5 students left from the hostel then the number of students can be arranged in a square.

 \therefore 5 students should be omitted.

Ans : 5 students.

7. a) Total trees = 535 + 1156 = 1691

Ans: 1691 trees.

b) $3 \overline{11} \overline{56} (34)$ $9 \overline{56} (34)$ $64 \overline{256} \overline{56} \overline$

Here, 1156 is a perfect square number.

 \therefore The number of coconut trees in each row is 34.

Ans: 34 coconut trees.

c) 2
$$5\overline{35}(23)$$

4 4
43 1 35
1 29
6

Here, 535 is not a perfect square number.

We observe here that, $(23)^2 < 535 < (24)^2$

The required number of soldiers to be added = $(24)^2$ - 535

 $= (24 \times 24) - 535$ = 676 - 535 = 41

Ans : More 41 mango trees are needed.

8. a)
2 4056
2 2028
2 1014
3 507
13 169
13

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

 $= (2 \times 2) \times (13 \times 13) \times 2 \times 3$

Here, 2 and 3 have no pairs. So, 2×3 or 6. If we divide 4056 by 6 the number will be a perfect square.

Ans : 6 .

b) 8
$$\overline{76} \ \overline{01} \ (87)$$

167 $\overline{12} \ 01$
11 69
32

Therefore 7601 is not a perfect square. If we subtract 32 from 7601 the result will be perfect square.

: The required number = (7601 - 32) = 7569

Ans : 32, 7569.

c) 8
$$\overline{6777894}(823)$$

 64
162 $\overline{378}$
 324
1643 $\overline{5494}$
 4929
 $\overline{565}$

We observe that, $(823)^2 < 677894 < (824)^2$

 \therefore The required number = $(824)^2 - 677894$

$$= (824 \times 824) - 677894$$
$$= 678976 - 677894 = 1082$$

So that, if we add 1082 with 677894 the result will be perfect square.

Ans : 1082.

9. a) Let the number of students is a. Each students give (a \times 5) paisa or 5a paisa So, the total number of taka (5a \times a) paisa or 5a² paisa Ana : 5a².

b) Here, Tk. 245 = (245 × 100) paisa [1 taka = 100 paisa] = 24500 paisa

 \therefore Amount of total money = 24500 paisa

ATQ,

 $5a^2 = 24500$ Or, $a^2 = 24500 \div 5$

We observe that, $(8)^2 < 70 < (9)^2$

 \therefore The required number = $(9)^2 - 70$

$$= (9 \times 9) - 70$$

 $= 81 - 70 = 11$

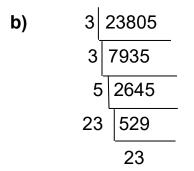
11 students should take admission.

Ans: 11 students.

 $\therefore 361 = 19 \times 19$

So, the square root of 361 is 19.

Ans : 19.

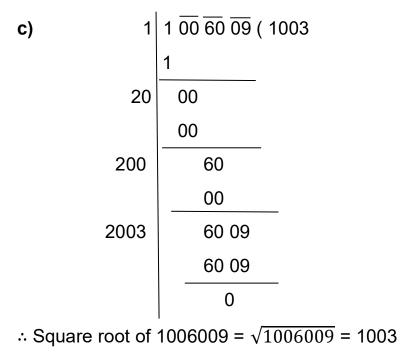


 $\therefore 23805 = 3 \times 3 \times 5 \times 23 \times 23$

 $= (3 \times 3) \times (23 \times 23) \times 5$

Here, 5 has no pair. If we multiply 5 with 23805, the result will be perfect square.

Ans : 5.



Ans : 1003.

11. a) 0.00005625 = $\frac{5625}{10000000}$ = $\frac{5625 \div 625}{100000000 \div 625}$ = $\frac{9}{160000}$

: If we express 0.00005625 in terms of $\frac{a}{b}$ then we find $\frac{9}{160000}$, here the value of a and b are 9 and 160000 who are integer and in between 9 and 160000 there is no common factor except 1.

Ans :
$$\frac{9}{160000}$$
.
b)
7 0.00 00 56 25 (0.0075

49

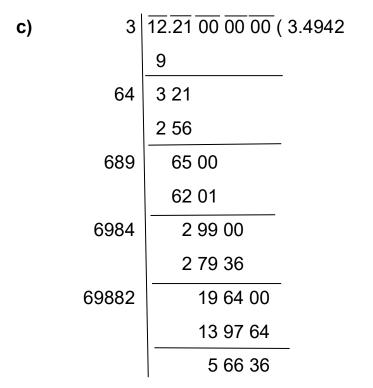
7 25

145 7 25

0

: Square root of 0.00005625 = $\sqrt{0.00005625}$ = 0.0075

Ans: 0.0075.



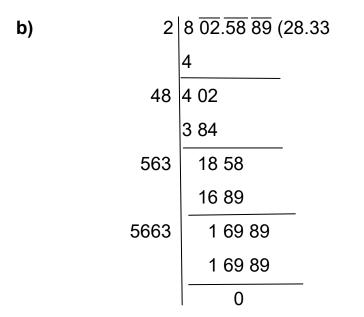
 \therefore The square root of 12.21 up to three decimal place is 3.494.

Ans : 3.494.

12. a) 0.047 =
$$\frac{47}{1000}$$

So, we express 0.047 in denominator of 1000 we get $\frac{47}{1000}$.

Ans : $\frac{47}{1000}$.



: Square root of 802.5889 = $\sqrt{802.5889}$ = 28.33

3 4 4

c) 2 $0.\overline{04} \ \overline{70} \ \overline{00} \ (0.216)$ 41 70 41 70 426 29 00 25 56

 \therefore The square root of 0.047 up to two decimal place is 0.216.

Ans : 0.216.