

Practice Questions - Term I

Date: 09/11/2021

Subject: Mathematics

Topic : Real Numbers

Class: X

1. Prime factorization of 1400:
 - A. $2.3^2.5^3$
 - B. $2^3.5.7$
 - C. $2^3.5^2.7^2$
 - D. $2^3.5^2.7$

2. The sum of prime factors of 4620 is:
 - A. 30
 - B. 28
 - C. 32
 - D. 34

3. If $a = 2^3 \times 3^2 \times 5$ and $b = 2^4 \times 3 \times 7^2$, then which of the following is true?
 - A. $\text{HCF} = 2^3 \times 3^2 \times 5 \times 7$
 $\text{LCM} = 2^7 \times 3^3 \times 5 \times 7^2$
 - B. $\text{HCF} = 2 \times 3 \times 5 \times 7$
 $\text{LCM} = 2^2 \times 3^2 \times 5 \times 7^2$
 - C. $\text{HCF} = 2^3 \times 3^2$
 $\text{LCM} = 2^4 \times 3^2 \times 5 \times 7^2$
 - D. $\text{HCF} = 2^3 \times 3$
 $\text{LCM} = 2^4 \times 3^2 \times 5 \times 7^2$

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4. The decimal expansions of $\frac{13}{6250}$ is
- A. 0.00416
 - B. 0.00512
 - C. 0.00208
 - D. 0.0208
5. For $\sqrt{3}x^2$ to be irrational, x should be
- A. always irrational.
 - B. always rational.
 - C. irrational or rational.
 - D. cannot be determined.
6. The decimal expansion of $\frac{141}{120}$ will terminate after how many places?
- A. 3
 - B. 5
 - C. 7
 - D. Will not terminate
7. Two numbers are in the ratio of 15:11. If their H.C.F is 13, the numbers will be:
- A. 195 and 143
 - B. 190 and 140
 - C. 185 and 163
 - D. 185 and 143

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8. We have 38 cakes. Each box can hold 5 cakes only. How many boxes we need to pack and how many cakes are unpacked?
- A.** 7, 3
- B.** 7, 4
- C.** 6, 8
- D.** 8, 2
9. The HCF of two numbers is 18 and their product is 12960. Find their LCM.
- A.** 280
- B.** 520
- C.** 720
- D.** 270
10. If $\frac{12}{q}$ is a terminating decimal number, then which of the following is a possible value of q?
- A.** 7
- B.** 9
- C.** 15
- D.** 21
11. If $\sqrt{3}$ is an irrational number, then which of the following is an irrational number?
- A.** $\sqrt{3} - \sqrt{3}$
- B.** $\sqrt{3}(2\sqrt{3} - \sqrt{3})$
- C.** $(\sqrt{3} - 1)(\sqrt{3} + 1)$
- D.** $\sqrt{3}(\sqrt{3} - 1)$

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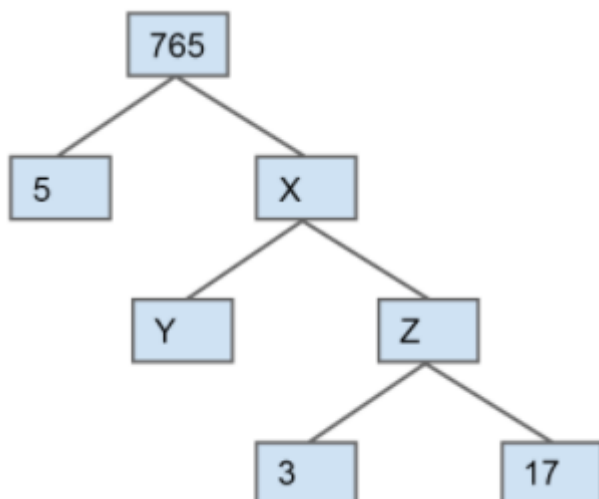
12. The largest 4-digit number exactly divisible by 88 is ____.
- A. 9944
 - B. 9988
 - C. 9966
 - D. 8888
13. If the HCF of 65 and 117 is expressible in the form $65m - 117$, then the value of m is:
- A. 4
 - B. 2
 - C. 1
 - D. 3
14. The traffic lights at three different road crossings change after every 48 seconds, 72 seconds and 108 seconds respectively. If they all change simultaneously at 8 AM then at what time will they again change simultaneously.
- A. 8:09 AM
 - B. 8:12 AM
 - C. 8:15 AM
 - D. 8:18 AM

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15. If the HCF and LCM of two consecutive (positive) even numbers is 2 and 84, the sum of the numbers is:

- A. 22
- B. 24
- C. 26
- D. 28

16. In the given factor tree, the value of $x + y + z$ is:



- A. 213
- B. 211
- C. 209
- D. 207

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17. The least number that is divisible by all the numbers from 1 to 10 (both inclusive) is:
- A. 630
 - B. 1080
 - C. 2520
 - D. 5040
18. HCF of two numbers is 1 and LCM is 253. If one of the two numbers is 11, find the other.
- A. 13
 - B. 17
 - C. 23
 - D. 15
19. Which of the following numbers is not irrational?
- A. $5 + \sqrt{2}$
 - B. $5 - \sqrt{2}$
 - C. $5 + \sqrt{3}$
 - D. $5 + \sqrt{9}$

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20. S1 : $\frac{1323}{1400}$ is a non terminating decimal.

S2 : A number $\frac{p}{q}$ where p and q are co-primes is terminating if q is of the form $2^n \cdot 3^m$ where n and m are non-negative integers.

- A. S1 and S2 are true.
- B. S1 and S2 are false
- C. S1 is false and S2 is true
- D. S1 is true and S2 is false