Contents

Unit 1

Primes, HCF and LCM

Notes

- **Prime numbers** are numbers that are divisible by 1 and themselves only.

  > Note: 0 and 1 are not prime numbers.

- **Composite numbers** are numbers that has more than two factors.

  > Note: 1 is not a composite number.

- **Highest Common Factor (HCF)** and **Lowest Common Factor (LCM)** can be found by prime factorization
- A **perfect square** is a number whose square root is a whole number.
- A **perfect cube** is a number whose cube root is a whole number.

✔ Worked Example 1

Write down the prime numbers between 20 to 40.

☑ Solution

The prime numbers are 23, 29, 31, 37 and 39.

23. Sally distributed 48 gummies, 60 marshmallows and 108 chocolate bars equally to all the children at a party.

   (a) Find the greatest possible number of children at the party.

   (b) For the number of children in (a), calculate the number of chocolate bars that each child will get.

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24. At the beginning of a straight road, you will be able to find benches, lamp posts and fire hydrants at 15 m, 20 m and 30 m apart respectively.

   (a) Starting from the beginning of the straight road, find the distance that the three objects will next appear in line?

   (b) If the straight road is $\dfrac{1}{2}$ km long, how many times do the three objects appear in line?

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25. Annie, Charlotte and Wendy were each given a piece of ribbon of equal length. Annie, Charlotte and Wendy cut each of their ribbon into equal lengths of 24 cm, 18 cm and 15 cm respectively. If there were no remainder in each case, find the shortest possible length of ribbon each of them received.

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26. **(a)** The highest common factor of two numbers is 1 and the lowest common multiple of these numbers is 91. Find the numbers.

   (b) Find the greatest 4-digit number which is a common multiple of 12, 18 and 42.

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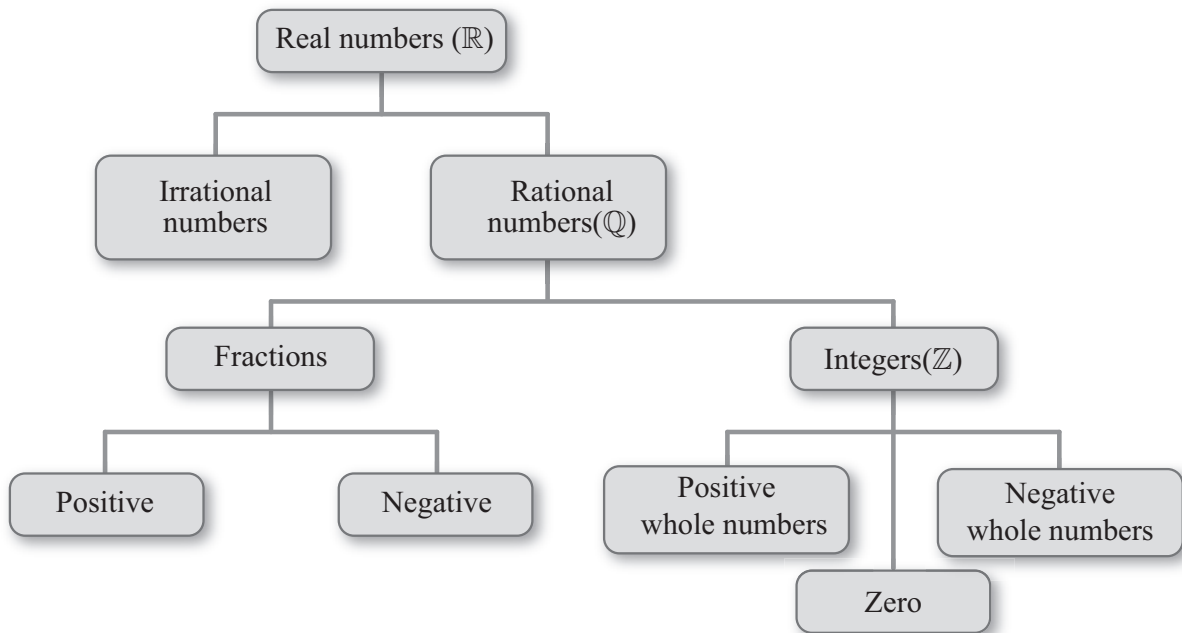
Examples on Operations of Integers:

- $7 + (-11) = 7 - 11 = -4$

- $9 + (-4) = 9 - 4 = 5$

- $(-3) + 7 = -3 + 7 = 4$

- $(-10) + 3 = -10 + 3 = -7$

- $(-3) + (-2) = -3 - 2 = -5$

- $5 - (-2) = 5 + 2 = 7$

- $(-3) - 6 = -3 - 6 = -9$

- $(-2) - (-12) = -2 + 12 = 10$

- $7 \times (-2) = -14$

- $(-3) \times 9 = -27$

- $(-5) \times (-4) = 20$

- $8 \div (-2) = \dfrac{8}{-2} = -4$

- $(-15) \div 3 = \dfrac{-15}{3} = -5$

- $(-39) \div (-3) = \dfrac{-39}{-3} = 13$

Practice Questions

1. Complete the statements in the answer spaces.

    (a) 0.043 75 correct to 1 significant figure is _____.

    (b) 0.043 75 correct to 3 decimal places is _____.

    (c) 0.043 75 correct to the nearest thousandths is _____.

    (d) 2165.89 m rounded off to the nearest 10 m is _____.

    ....

2. Express

    (a) 5 320 043 correct to the nearest hundreds,

    (b) 293.12 cm correct to the nearest metres,

    (c) 9 162 708 correct to the nearest thousands.

    ....

3. Round off 694 357 correct to the nearest

    (a) tens,

    (b) hundreds,

    (c) thousands.

    ....

4. Express the following numbers correct to 3 significant figures.

    (a) 0.396 32

    (b) 236.9303

    ....