



Half-yearly Test Paper

(Chapters 1–6)

Marks: 80

A. Select the correct answer.

(10 × 1)

- $42 \div \frac{1}{4}$ is equal to
 - 168 ☐
 - 21 ☐
 - $\frac{1}{168}$ ☐
 - $\frac{1}{21}$ ☐
 - The value of expression $3.5 + 2.8 \div 0.02$ equals
 - 143.5 ☐
 - 14.35 ☐
 - 315 ☐
 - 31.5 ☐
 - If the mean of 2, 3, x and 6 is 4 and the mean of 1, x , y and 15 is 7, then the value of y is
 - 5 ☐
 - 6 ☐
 - 7 ☐
 - 8 ☐
 - If Shamali is ' x ' years old, her mother is twice her age and her grandmother is 23 years older than her mother, then her grandmother's age (in years) is
 - $23x$ ☐
 - $23 + x$ ☐
 - $2x - 23$ ☐
 - $2x + 23$ ☐
 - If the sum of two consecutive even numbers is 94, then the larger number is
 - 50 ☐
 - 48 ☐
 - 52 ☐
 - 46 ☐
 - The pair of supplementary angles is
 - $25^\circ, 125^\circ$ ☐
 - $45^\circ, 135^\circ$ ☐
 - $30^\circ, 145^\circ$ ☐
 - $30^\circ, 135^\circ$ ☐
 - In the adjacent figure, if $l \parallel m$ and $n \perp m$, then the measure of x is
 - 35° ☐
 - 55° ☐
 - 75° ☐
 - 65° ☐
-
- Fig. 1
- The sum of angles of a quadrilateral is
 - 270° ☐
 - 180° ☐
 - 90° ☐
 - 360° ☐
 - Which of these cannot be sides (in cm) of a triangle?
 - 5, 6, 7 ☐
 - 3, 3, 6 ☐
 - 2, 2, 2 ☐
 - 5, 7, 9 ☐
 - The following triplets represent the lengths (in cm) of the sides of a triangle. The triplet that does not make a right triangle is
 - 5, 12, 13 ☐
 - 3, 4, 5 ☐
 - 7, 13, 14 ☐
 - 8, 15, 17 ☐

B. Fill in the blanks.

(10 × 1)

- The integers which are its own multiplicative inverse are _____
- The product of a fraction and its reciprocal is _____
- If a number is less than 1, then its reciprocal is _____ than 1.

4. When a decimal is divided by 10, the decimal point moves to the _____ by one place.
5. Collection of numbers gathered to give some information is called _____
6. If the mode of 3, 5, 6, 5, 7, 7, 4, 6, 4, $x-3$ is 7, then the value of x is _____
7. If $\frac{p}{-3} = 1$, then the value of $4p + 17 =$ _____
8. Two vertically opposite angles are always _____
9. _____ is a line that cuts two or more lines at distinct points.
10. The measure of an angle equal to its supplement is _____

C. Short-answer type questions.

(10 × 2)

1. Which is greater? $(-3) \times 2 + (-1) \times 2 \times 4$ or $(-2) \div (-1) + 4 + 2 - (-3)$
2. Find x , if $11 - 6\frac{7}{8} = x + \left(\frac{3}{8}\right)$.
3. A bakery consumes 5.25 kg of sugar every week. What is the average mass of sugar used by the bakery in one day?
4. A tank 8.7 m deep contains water to a depth of 8.17 m. How far is the water level below the top of the tank? Express your answer in cm.
5. The following are the ages of 25 students of class VII in a school. Represent the data in the form of a frequency distribution table and also find the modal age.

14	15	15	17	16
15	16	14	16	16
15	16	15	16	15
15	15	15	14	15
16	17	16	14	16

6. The set of data 2, 4, 5, x , 5, 4 is given. In each part find a possible value of x so that
 - i. there is no mode because all scores appear an equal number of times
 - ii. there is only one mode

7. Find the value of x in Figure 2.
8. In Figure 3, if $\angle POQ + \angle SOR = 276^\circ$ then find all the four angles.

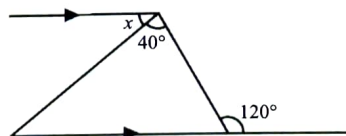


Fig. 2

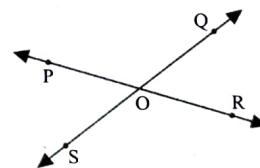


Fig. 3

9. In ΔPQR , $\angle P = 120^\circ$, $\angle Q = 2\angle R$. Find $\angle Q$ and $\angle R$.
10. The bisectors of acute angles of a right triangle meet at O. Find the angle at O between the two bisectors.

D. Long-answer type questions. Attempt any 10 questions.

(10 × 4)

1. Each student of a class of 48 students got $\frac{3}{4}$ of a pastry on Children's day. How many dozens of pastries were distributed in the class?

2. A school uniform requires 1.18 m cloth. How many uniforms can be prepared from 44.84 m cloth?
3. For making a pizza, $5\frac{1}{2}$ cups of flour is required. If the measuring cup holds $1\frac{5}{6}$ cups of flour then how many times is the measuring cup required to be filled with flour?
4. If silk costs six times as much as linen and I spend ₹2150 in buying 6 m of silk and 7 m of linen then find the cost of each per metre.
5. In Figure 4, $AB \parallel CD$. Find the value of x .
6. In Figure 5 $\angle POS$, $\angle SOQ$, $\angle QOT$, $\angle TOR$ and $\angle ROP$ are angles formed around a point O. Find the value of x , y and z .

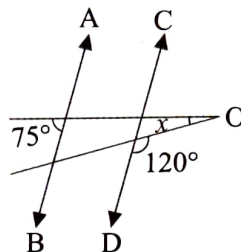


Fig. 4

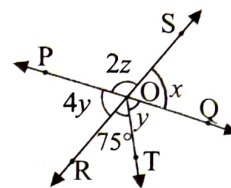


Fig. 5

7. Two angles of a triangle are equal and the third angle is greater than each of these angles by 45° . Determine all the angles of a triangle. What kind of triangle is this?
8. A grocer buys 12.5 kg of tea at ₹565.68 per kg and 8 kg of tea at ₹300 per kg. He then mixes all the tea and repacks it into 250 g packs. How many packets of tea leaves does the grocer have? What is the cost of tea leaves in each packet?
9. In Figure 6, $AB \parallel CD$. Transversal l cuts AB and CD at P and Q respectively. Transversal m cuts AB and CD at R and S respectively. Find the value of x and also the measures of $\angle PQC$ and $\angle RSD$.

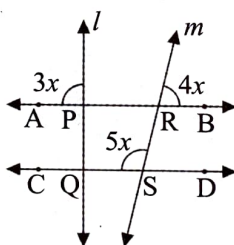


Fig. 6

10. i. In $\triangle ABC$ (Fig. 7), a line segment XY parallel to BC cuts AB at X and AC at Y . BY bisects $\angle XYC$. If $\angle XYC = 60^\circ$, find the measure of $\angle CBY$.
- ii. In Figure 8, if $AB \parallel CD$, $EF \perp CD$ and $\angle GED = 126^\circ$, find $\angle AGE$, $\angle GEF$ and $\angle FGE$.

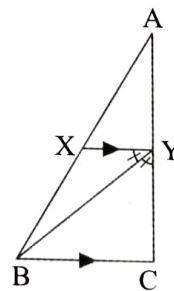


Fig. 7

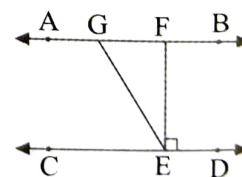


Fig. 8