

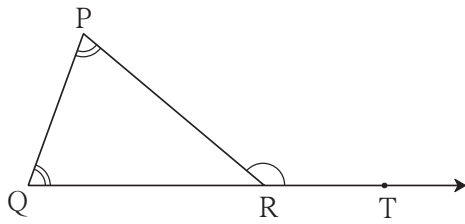
Miscellaneous Problems : Set 1

1. Solve the following.
(i) $(-16) \times (-5)$ (ii) $(72) \div (-12)$ (iii) $(-24) \times (2)$
(iv) $125 \div 5$ (v) $(-104) \div (-13)$ (vi) $25 \times (-4)$
2. Find the prime factors of the following numbers and find their LCM and HCF.
(i) 75, 135 (ii) 114, 76 (iii) 153, 187 (iv) 32, 24, 48
- 3*. Simplify.
(i) $\frac{322}{391}$ (ii) $\frac{247}{209}$ (iii) $\frac{117}{156}$
4. Find the square root of the following numbers.
(i) 784 (ii) 225 (iii) 1296 (iv) 2025 (v) 256
5. There are four polling booths for a certain election. The numbers of men and women who cast their vote at each booth is given in the table below. Draw a joint bar graph for this data.

Polling Booths	Navodaya Vidyalaya	Vidyaniketan School	City High School	Eklavya School
Women	500	520	680	800
Men	440	640	760	600

6. Simplify the expressions.
(i) $45 \div 5 + 20 \times 4 - 12$ (ii) $(38 - 8) \times 2 \div 5 + 13$
(iii) $\frac{5}{3} + \frac{4}{7} \div \frac{32}{21}$ (iv) $3 \times \{ 4 [85 + 5 - (15 \div 3)] + 2 \}$
7. Solve.
(i) $\frac{5}{12} + \frac{7}{16}$ (ii) $3\frac{2}{5} - 2\frac{1}{4}$ (iii) $\frac{12}{5} \times \frac{(-10)}{3}$ (iv*) $4\frac{3}{8} \div \frac{25}{18}$
8. Construct $\triangle ABC$ such that $m\angle A = 55^\circ$, $m\angle B = 60^\circ$, and $l(AB) = 5.9$ cm.
9. Construct $\triangle XYZ$ such that, $l(XY) = 3.7$ cm, $l(YZ) = 7.7$ cm, $l(XZ) = 6.3$ cm.
10. Construct $\triangle PQR$ such that, $m\angle P = 80^\circ$, $m\angle Q = 70^\circ$, $l(QR) = 5.7$ cm.
11. Construct $\triangle EFG$ from the given measures. $l(FG) = 5$ cm, $m\angle EFG = 90^\circ$, $l(EG) = 7$ cm.
12. In $\triangle LMN$, $l(LM) = 6.2$ cm, $m\angle LMN = 60^\circ$, $l(MN) = 4$ cm. Construct $\triangle LMN$.
13. Find the measures of the complementary angles of the following angles.
(i) 35° (ii) a° (iii) 22° (iv) $(40 - x)^\circ$
14. Find the measures of the supplements of the following angles.
(i) 111° (ii) 47° (iii) 180° (iv) $(90 - x)^\circ$
15. Construct the following figures.
(i) A pair of adjacent angles (ii) Two supplementary angles which are not adjacent angles. (iii) A pair of adjacent complementary angles.

16.



In ΔPQR , the measures of $\angle P$ and $\angle Q$ are equal and $m\angle PRQ = 70^\circ$. Find the measures of the following angles.

(i) $m\angle PRT$ (ii) $m\angle P$ (iii) $m\angle Q$

17. Simplify.

(i) $5^4 \times 5^3$ (ii) $\left(\frac{2}{3}\right)^6 \div \left(\frac{2}{3}\right)^9$ (iii) $\left(\frac{7}{2}\right)^8 \times \left(\frac{7}{2}\right)^{-6}$ (iv) $\left(\frac{4}{5}\right)^2 \div \left(\frac{5}{4}\right)$

18. Find the value.

(i) $17^{16} \div 17^{16}$ (ii) 10^{-3} (iii) $(2^3)^2$ (iv) $4^6 \times 4^{-4}$

19. Solve.

(i) $(6a - 5b - 8c) + (15b + 2a - 5c)$ (ii) $(3x + 2y)(7x - 8y)$
 (iii) $(7m - 5n) - (-4n - 11m)$ (iv) $(11m - 12n + 3p) - (9m + 7n - 8p)$

20. Solve the following equations.

(i) $4(x + 12) = 8$ (ii) $3y + 4 = 5y - 6$

Multiple Choice Questions

Choose the right answer from the options given after every question.

1. The three angle bisectors of a triangle are concurrent. Their point of concurrence is called the

(i) circumcentre (ii) apex (iii) incentre (iv) point of intersection.

2. $\left[\left(\frac{3}{7}\right)^{-3}\right]^4 = \dots\dots\dots$

(i) $\left(\frac{3}{7}\right)^{-7}$ (ii) $\left(\frac{3}{7}\right)^{-10}$ (iii) $\left(\frac{7}{3}\right)^{12}$ (iv) $\left(\frac{3}{7}\right)^{20}$

3. The simplest form of $5 \div \left(\frac{3}{2}\right) - \frac{1}{3}$ is

(i) 3 (ii) 5 (iii) 0 (iv) $\frac{1}{3}$

4. The solution of the equation $3x - \frac{1}{2} = \frac{5}{2} + x$ is

(i) $\frac{5}{3}$ (ii) $\frac{7}{2}$ (iii) 4 (iv) $\frac{3}{2}$

5*. Which of the following expressions has the value 37?

(i) $10 \times 3 + (5 + 2)$ (ii) $10 \times 4 + (5 - 3)$
 (iii) $8 \times 4 + 3$ (iv) $(9 \times 3) + 2$

