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Class - 7
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## Practice Set - 1

1. Draw line segments of the lengths given below and draw their perpendicular bisectors.
(1) 5.3 cm (2) 6.7 cm (3) 3.8 cm
2. Draw angles of the measures given below and draw their bisectors.
(1) $105^{\circ}$ (2) $55^{\circ}$ (3) $90^{\circ}$
3. Draw an obtuse-angled triangle and a right-angled triangle. Find the points of concurrence of the angle bisectors of each triangle. Where do the points of concurrence lie?
4. Draw a right-angled triangle. Draw the perpendicular bisectors of its sides. Where does the point of concurrence lie ?

5 . Maithili, Shaila and Ajay live in three different places in the city. A toy shop is equidistant from the three houses. Which geometrical construction should be used to represent this? Explain your answer.

## Practice Set-2

1. Draw an isosceles triangle with base 5 cm and the other sides 3.5 cm each.
2. Draw an equilateral triangle with side 6.5 cm
3. Choose the lengths of the sides yourself and draw one equilateral, one isosceles and one scalene triangle.

## Practice Set - 3

Draw triangles with the measures given below

1. In $\triangle M A T, \mathrm{l}(\mathrm{MA})=5.2 \mathrm{~cm}, \mathrm{~m}<\mathrm{A}=80^{\circ}, \mathrm{l}(\mathrm{AT})=6 \mathrm{~cm}$
2. In $\Delta N T S, m<T=40^{\circ}, \mathrm{l}(\mathrm{NT})=\mathrm{l}(\mathrm{TS})=5 \mathrm{~cm}$
3. In $\triangle F U N, I(\mathrm{FU})=5 \mathrm{~cm}, \mathrm{l}(\mathrm{UN})=4.6 \mathrm{~cm}, \mathrm{~m}<\mathrm{U}=110^{\circ}$
4. $\operatorname{In} \Delta P R S, l(R S)=5.5 \mathrm{~cm}, \mathrm{l}(\mathrm{RP})=4.2 \mathrm{~cm}, \mathrm{~m}<\mathrm{R}=90^{\circ}$

## Practice Set-4

Construct triangles of the measures given below.

1. In $\triangle S A T, \mathrm{l}(\mathrm{AT})=6.4 \mathrm{~cm}, \mathrm{~m} \angle \mathrm{~A}=45^{\circ}, \mathrm{m} \angle \mathrm{T}=105^{\circ}$
2. In $\triangle M N P, \mathrm{I}(\mathrm{NP})=5.2 \mathrm{~cm}, \mathrm{~m} \angle \mathrm{~N}=70^{\circ}, \mathrm{m} \angle \mathrm{P}=40^{\circ}$
3. In $\triangle E F G, \mathrm{l}(\mathrm{EG})=6 \mathrm{~cm}, \mathrm{~m} \angle \mathrm{~F}=65^{\circ}, \mathrm{m} \angle \mathrm{G}=45^{\circ}$
4. In $\triangle X Y Z, I(X Y)=7.3 \mathrm{~cm}, \mathrm{~m} \angle X=34^{\circ}, \mathrm{m} \angle Y=95^{\circ}$

## Practice Set - 5

## Construct triangles of the measures given below

1. In $\triangle M A N, m \angle M A N=90^{\circ}, I(A N)=8 \mathrm{~cm}, I(M N)=10 \mathrm{~cm}$.
2. In the right-angled $\triangle S T U$, hypotenuse $\mathrm{SU}=5 \mathrm{~cm}$ and $\mathrm{I}(\mathrm{ST})=4 \mathrm{~cm}$.
3. In $\triangle A B C, I(A C)=7.5 \mathrm{~cm}, m \angle A B C=90^{\circ}, I(B C)=5.5 \mathrm{~cm}$.
4. In $\triangle P Q R, I(P Q)=4.5 \mathrm{~cm}, l(P R)=11.7 \mathrm{~cm}, \mathrm{~m} \angle P Q R=90^{\circ}$.
5. Students should take examples of their own and practise construction of triangles.

## Practice Set-6

Multiply.
(i) $(-5) \times(-7)(\mathrm{ii})(-9) \times(6)(\mathrm{iii})(9) \times(-4)(\mathrm{iv})(8) \times(-7)(\mathrm{v})(-124) \times(-1)(\mathrm{vi})(-12) \times(-7)(v i i)(-63) \times(-7)(v i i i)(-7) \times(15)$

## Practice Set - 7

1. Solve :
(i) $(-96) \div 16$ (ii) $98 \div(-28)$ (iii) $(-51) \div 68$ (iv) $38 \div(-57)(v)(-85) \div 20(v i)(-150) \div(-25)(v i i) 100 \div 60$ (viii) $9 \div(-54)$ (ix) $78 \div 65(x)(-$ 5) $\div(-315)$
2. Write three divisions of integers such that the fractional form of each will be $\frac{24}{5}$
3. Write three divisions of integers such that the fractional form of each will be $\frac{-5}{7}$
4. The fish in the pond below, carry some numbers. Choose any 4 pairs and carry out four multiplications with those numbers. Now, choose four other pairs and carry out divisions with these numbers.

## Practice Set - 8

1. Which number is neither a prime number nor a composite number?
2. Which of the following are pairs of co-primes?
(i) 8,14 (ii) 4,5 (iii) 17,19 (iv) 27,15
3. List the prime numbers from 25 to 100 and say how many they are.
4. Write all the twin prime numbers from 51 to 100.
5. Write 5 pairs of twin prime numbers from 1 to 50.
6. Which are the even prime numbers?

## Practice set-9

## Factorise the following numbers into primes.

(i) 32 (i)
(ii) 57
ii) 23
(iv) 150 (
(v) 216 (v
vi) 208 (vii) 765 (viii
342 (ix) 377 (x)
x) 559

Practice Set - 10

## 1. Find the HCF

(i) 25,40 (ii) 56,32 (iii) $40,60,75$ (iv) 16,27 (v) 18, 32,48 (vi) 105, 154 (vii) $42,45,48$ (viii) 57, 75,102 (ix) 56,57 (x) $777,315,588$
2. Find the HCF by the division method and reduce to the simplest form.
(i) $\frac{275}{525}$ (ii) $\frac{76}{133}$ (iii) $\frac{161}{69}$

Practice Set - 11

1. Find the LCM
(i) 12,15
(ii) $6,8,10$
(iii) 18, 32 (iv) 10, 15, 20 (
(v) 45,86 (vi) $15,30,90$ (vii) 105, 195 (viii) $12,15,45$ (ix) 63, 81 (x) 18, 36, 27
2. Find the HCF and LCM of the numbers given below. Verify that their product is equal to the product of the given numbers.
(i) 32, 37 (ii) 46, 51 (iii) 15, 60 (iv) 18, 63 (v) 78, 104

## Practice Set - 12

1. Choose the right option.
(i) The HCF of 120 and 150 is
(1) 30 (2) 45 (3) 20 (4) 120
(ii) The HCF of this pair of numbers is not 1.
(1) 13,17 (2) 29, 20 (3) 40, 20 (4) 14, 15
2. Find the HCF and LCM. (i) 14, 28 (ii) 32, 16 (iii) 17, 102, 170 (iv) 23, 69 (v) 21, 49, 84
3. Find the LCM.
(i) 36,42 (ii) $15,25,30$ (iii) $18,42,48$ (iv) $4,12,20$ (v) $24,40,80,120$
4. Find the smallest number which when divided by $8,9,10,15,20$ gives a remainder of 5 every time.
5. The LCM and HCF of two numbers are 432 and 72 respectively. If one of the numbers is 216 , what is the other?
6. The product of two two-digit numbers is 765 and their HCF is 3 . What is their LCM?
7. A trader has three bundles of string $392 \mathrm{~m}, 308 \mathrm{~m}$ and 490 m long. What is the greatest length of string that the bundles can be cut up into without any left over string?
8. Which two consecutive even numbers have an LCM of 180 ?

## Practice Set - 13

1. The measures of some angles are given below. Write the measures of their complementary angles.
(i) $40^{\circ}$ (ii) $63^{\circ}$ (iii) $45^{\circ}$ (iv) $55^{\circ}$ (v) $20^{\circ}$ (vi) $90^{\circ}$ (vii) $x^{\circ}$
2. $(y-20)^{\circ}$ and $(y+30)^{\circ}$ are the measures of complementary angles. Find the measure of each angle.

## Practice set - 14

1. Write the measures of the supplements of the angles given below.
(i) $15^{\circ}$ (ii) $85^{\circ}$
(iii) $120^{\circ}$ (iv) $37^{\circ}$
v) $108^{\circ}$ (vi)
vi) $0^{\circ}$ (vii) $a^{\circ}$
2. The measures of some angles are given below. Use them to make pairs of complementary and supplementary angles.
$\mathrm{m} \angle \mathrm{B}=60^{\circ} \mathrm{m} \angle \mathrm{N}=30^{\circ} \mathrm{m} \angle Y=90^{\circ} \mathrm{m} \angle \mathrm{J}=150^{\circ} \mathrm{m} \angle \mathrm{D}=75^{\circ} \mathrm{m} \angle \mathrm{E}=0^{\circ} \mathrm{m} \angle \mathrm{F}=15^{\circ} \mathrm{m} \angle \mathrm{G}=120^{\circ}$
3. In $\triangle X Y Z, m \angle Y=90^{\circ}$. What kind of a pair do $\angle X$ and $\angle Z$ make?
4. The difference between the measures of the two angles of a complementary pair is $40^{\circ}$. Find the measures of the two angles.
5. If $m \angle A=70^{\circ}$, what is the measure of the supplement of the complement of $\angle A$ ?
6. If $\angle A$ and $\angle B$ are supplementary angles and $m \angle B=(x+20)^{\circ}$, then what would be $m \angle A$ ?

## Practice Set - 15

Draw the pairs of angles as described below. If that is not possible, say why.
(i) Complementary angles that are not adjacent.
(ii) Angles in a linear pair which are not supplementary.
(iii) Complementary angles that do not form a linear pair.
(iv) Adjacent angles which are not in a linear pair.
(v) Angles which are neither complementary nor adjacent.
(vi) Angles in a linear pair which are complementary

## Practice Set- 16

1. Carry out the following additions of rational numbers. 3
(i) $\frac{5}{36}+\frac{6}{42}$
(ii) $1 \frac{2}{3}+2 \frac{4}{5}$
(iii) $\frac{11}{17}+\frac{13}{19}$
(iv) $2 \frac{3}{11}+1 \frac{3}{77}$
2. Carry out the following subtractions involving rational numbers.
(i) $\frac{7}{11}-\frac{3}{7}$
(ii) $\frac{13}{36}-\frac{2}{40}$
(iii) $1 \frac{2}{3}-3 \frac{5}{6}$
(iv) $4 \frac{1}{2}-3 \frac{1}{3}$
3. Multiply the following rational numbers.
(i) $\frac{3}{11} \times \frac{2}{5}$ (ii) $\frac{12}{5} \times \frac{4}{15}$ (iii) $\frac{(-8)}{9} \times \frac{3}{4}$ (iv) $\frac{0}{6} \times \frac{3}{4}$
4. Write the multiplicative inverse.
$\begin{array}{ll}\text { (i) } \frac{2}{5} & \text { (ii) } \frac{-3}{8}\end{array}$
(iii) $\frac{-17}{39}$ (iv) 7
(v) $-7 \frac{1}{3}$
5. Carry out the divisions of rational numbers.
(i) $\frac{40}{12} \div \frac{10}{4}$
(ii) $\frac{-10}{11} \div \frac{-11}{10}$
(iii) $\frac{-7}{8} \div \frac{-3}{6}$
(iv) $\frac{2}{3} \div(-4)$ (v) $2 \frac{1}{5} \div 5 \frac{3}{6}$
(vi) $\frac{-5}{13} \div \frac{7}{26}$
(vii) $\frac{9}{11} \div(-8)$ (viii) $5 \div \frac{2}{5}$

## Practice Set - 17

Write three rational numbers that lie between the two given numbers.
(i) $\frac{2}{7}, \frac{6}{7}$ (ii) $\frac{4}{5}, \frac{2}{3}$
(iii) $-\frac{2}{3}, \frac{4}{5}$
(iv) $\frac{7}{9}, \frac{5}{9}$
(v) $\frac{-3}{4}, \frac{+5}{4}$
(vi) $\frac{7}{8}, \frac{-5}{8}$
(vii) $\frac{5}{7}, \frac{11}{7}$
(viii) $0, \frac{-3}{4}$

Practice Set - 18

Write the following rational numbers in decimal form.
(i) $\frac{13}{4}$ (ii) $\frac{-7}{8}$
(iii) $7 \frac{3}{5}$ (iv) $\frac{5}{12}$
(v) $\frac{22}{7}$
(vi) $\frac{4}{3}$ (vii) $\frac{7}{9}$

Practice Set - 19
Simplify the following expressions

1. $50 \times 5 \div 2+24$
2. $(13 \times 4) \div 2-26$
3. $140 \div[(-11) \times(-3)-(-42) \div 14-1)]$
4. $\{(220-140)+[10 \times 9+(-2 \times 5)]\}-100$

Practice set - 20

1. Complete the table below.

| Sr. No. | Indices <br> (Numbers in index <br> form) | Base | Index | Multiplication form | Value |
| :--- | :--- | :--- | :--- | :--- | :--- |
| (i) | $3^{4}$ | 3 | 4 | $3 \times 3 \times 3 \times 3$ | 81 |
| (ii) | $16^{3}$ |  |  |  |  |
| (iii) |  | $(-8)$ | 2 |  |  |
| (iv) |  |  |  | $\frac{3}{7} x \frac{3}{7} \times \frac{3}{7} x \frac{3}{7}$ | $\frac{\mathbf{8 1}}{\mathbf{2 4 0 1}}$ |
| (v) | $(-13)^{4}$ |  |  |  |  |

2. Find the value
(i) $21^{0}$ (ii) $5^{3}$ (iii) $(-7)^{4}$ (iv) $(-6)^{3}$ (v) $9^{3}$ (vi) $8^{1}$

Practice Set - 21
(1) Simplify.
(i) $7^{4} \times 7^{2}$ (ii) (-11) $5 \times(-11) 2$ (iii) (v) $a^{16} \times a^{7}$
(i) $a^{6} \div a^{4}$ (ii) $\mathrm{m}^{5} \div \mathrm{m}^{8}$ (iii) $\mathrm{p}^{3} \div \mathrm{p}^{13}$ (iv) $\mathrm{x}^{10} \div \mathrm{x}^{10}$
2. Find the value.
(i) $(-7)^{12} \div(-7)^{12}$ (ii) $7^{5} \div 7^{3}$ (iv) $4^{7} \div 4^{5}$

Practice Set - 22
Find the square root.
(i) 625
(ii) 1225
(iii) 289 (iv) 4096
(v) 1089

Practice Set - 23

1. The number of saplings planted by schools on World Tree Day is given in the table below. Draw a joint bar graph to show these figures.

| School Name Name of sapling | Almond | Karanj | Neem | Ashok | Gulmohar |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Nutan Vidyalaya |  |  |  |  |  |
| Bharat Vidyalaya | $\mathbf{4 0}$ | $\mathbf{6 0}$ | $\mathbf{7 2}$ | $\mathbf{1 5}$ | $\mathbf{4 2}$ |

2. The table below shows the number of people who had the different juices at a juice bar on a Saturday and a Sunday. Draw a joint bar graph for this data.

|  | Fruits | Sweet Lime | Orange | Apple |
| :--- | :--- | :--- | :--- | :--- |
| Days | Pineapple |  |  |  |
| Saturday | 43 | 59 | 56 | 40 |
| Sunday | 59 | 65 | 78 | 67 |

3. The following numbers of votes were cast at 5 polling booths during the Gram Panchayat elections. Draw a joint bar graph for this data.

| Persons Booth No. | 1 | 2 | 3 | 4 | 5 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Men | 200 | 270 | 560 | 820 | 850 |
| Women | 700 | 240 | 340 | 640 | 470 |

4. The maximum and minimum temperatures of five Indian cities are given in ${ }^{\circ} \mathrm{C}$. Draw a joint bar graph for this data.

| Temperature City | Delhi | Mumba | Kolkata | Nagpur | Kapurthala |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Maximum temperature | 35 | 32 | 37 | 41 | 37 |
| Minimum temperature | 26 | 25 | 26 | 29 | 26 |

5. The numbers of children vaccinated in one day at the government hospitals in Solapur and Pune are given in the table. Draw a joint bar graph for this data.

| Temperature Vaccine | D.P.T. (Booster) | Polio (Booster) | Measles | Hepatitis |
| :--- | :--- | :--- | :--- | :--- |
| Solapur | 65 | 60 | 65 | 63 |
| Pune | 89 | 87 | 88 | 86 |

6. The percentage of literate people in the states of Maharashtra and Gujarat are given below. Draw a joint bar graph for this data.

| State | Year | $\mathbf{1 9 7 1}$ | $\mathbf{1 9 8 1}$ | $\mathbf{1 9 9 1}$ | $\mathbf{2 0 0 1}$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{2 0 1 1}$ |  |  |  |  |  |
| Maharashtra | 46 | 57 | 65 | 77 | 83 |
| Gujarat | 40 | 45 | 61 | 69 | 79 |

## Practice set - 24

Classify the following algebraic expressions as monomials, binomials, trinomials or polynomials.
(i) $7 x$
(ii) $5 y-7 z$
(iii) $3 \times 3-5 \times 2-11$
(iv) $1-8 \mathrm{a}-7 \mathrm{a} 2-7 \mathrm{a} 3$
(v) $5 m-3$ (vi) a (vii) 4 (viii) $3 y 2-7 y+5$

## Practice Set - 25

ADD
(i) $9 p+16 q ; 13 p+2 q$ (ii) $2 a+6 b+8 c ; 16 a+13 c+18 b$
(iii) $13 x^{2}-12 y^{2} ; 6 x^{2}-8 y^{2}$
(iv) $17 a^{2} b^{2}+16 c ; 28 c-28 a^{2} b^{2}$ (v) $3 y^{2}-10 y+16 ; 2 y-7$ (vi) $-3 y^{2}+10 y-16 ; 7 y^{2}+8$

## Practice Set - 26

## Subtract the second expression from the first.

(i) $(4 x y-9 z) ;(3 x y-16 z)$ (ii) $(5 x+4 y+7 z) ;(x+2 y+3 z)($ iii $)\left(14 x^{2}+8 x y+3 y^{2}\right) ;\left(26 x^{2}-8 x y-17 y^{2}\right)$
(iv) $\left(6 x^{2}+7 x y+16 y^{2}\right) ;\left(16 x^{2}-17 x y\right)(v)(4 x+16 z) ;(19 y-14 z+16 x)$

## Practice Set-27

1. Multiply.
(i) $16 x y \times 18 x y$ (ii) $23 x y^{2} \times 4 z^{2}$ (iii) $(12 a+17 b) \times 4 c$ (iv) $(4 x+5 y) \times(9 x+7 y)$
2. A rectangle is $(8 x+5) \mathrm{cm}$ long and $(5 x+3) \mathrm{cm}$ broad. Find its area.

## Practice Set - 28

1. Simplify $(3 x-11 y)-(17 x+13 y)$ and choose the right answer.
(i) $7 x-12 y$ (ii) $-14 x-54 y$ (iii) $-3(5 x+4 y)$ (iv) $-2(7 x+12 y$ )
2. The product of $\left(23 x^{2} y^{3} z\right)$ and $\left(-15 x^{3} y z^{2}\right)$ is $\qquad$
(i) $-345 x^{5} y^{4} z^{3}$ (ii) $345 x^{2} y^{3} z^{5}$ (iii) $145 x^{3} y^{2} z$ (iv) $170 x^{3} y^{2} z^{3}$
3. Solve the following equations.
(i) $10=2 y+5$
(ii) $5 \mathrm{~m}-4=1$
(iii) $6 x-1=3 x+8$ (iv
(iv) $2(x-4)=4 x+2(v) 5(x+1)=74$
4. Rakesh's age is less than Sania's age by 5 years. The sum of their ages is 27 years. How old are they?
5. When planting a forest, the number of jambhul trees planted was greater than the number of ashoka trees by 60 . If there are altogether 200 trees of these two types, how many jambhul trees were planted?
6. Shubhangi has twice as many 20 -rupee notes as she has 50 -rupee notes. Altogether, she has 2700 rupees. How many 50 -rupee notes does she have ?
7. Virat made twice as many runs as Rohit. The total of their scores is 2 less than a double century. How many runs did each of them make ?

## Practice Set-29

1. If 7 kg onions cost 140 rupees, how much must we pay for 12 kg onions?
2. If 600 rupees buy 15 bunches of feed, how many will 1280 rupees buy?
3. For 9 cows, 13 kg 500 g of food supplement are required every day. In the same proportion, how much will be needed for 12 cows?
4. The cost of 12 quintals of soyabean is 36,000 rupees. How much will 8 quintals cost?
5. Two mobiles cost 16,000 rupees. How much money will be required to buy 13 such mobiles ?

## Practice Set - $\mathbf{3 0}$

1. Five workers take 12 days to weed a field. How many days would 6 workers take ? How many would 15 take ?
2. Mohanrao took 10 days to finish a book, reading 40 pages every day. How many pages must he read in a day to finish it in 8 days?
3. Mary cycles at 6 km per hour. How long will she take to reach her Aunt's house which is 12 km away? If she cycles at a speed of 4 $\mathrm{km} / \mathrm{hr}$, how long would she take ?
4. The stock of grain in a government warehouse lasts 30 days for 4000 people. How many days will it last for 6000 people ?

## Practice Set - 31

1. Suresh and Ramesh together invested 144000 rupees in the ratio $4: 5$ and bought a plot of land. After some years they sold it at a profit of $20 \%$. What is the profit each of them got?
2. Virat and Samrat together invested 50000 and 120000 rupees to start a business. They suffered a loss of $20 \%$. How much loss did each of them incur ?
3. Shweta, Piyush and Nachiket together invested 80000 rupees and started a business of selling sheets and towels from Solapur. Shweta's share of the capital was 30000 rupees and Piyush's 12000 . At the end of the year they had made a profit of $24 \%$. What was Nachiket's investment and what was his share of the profit?
4. $A$ and $B$ shared a profit of 24500 rupees in the proportion $3: 7$. Each of them gave $2 \%$ of his share of the profit to the Soldiers' Welfare Fund. What was the actual amount given to the Fund by each of them?
5 . Jaya, Seema, Nikhil and Neelesh put in altogether 360000 rupees to form a partnership, with their investments being in the proportion 3:4:7:6. What was Jaya's actual share in the capital ? They made a profit of $12 \%$. How much profit did Nikhil make ?

## Practice Set - 32

1. If Rihanna deposits 1500 rupees in the school fund at 9 p.c.p.a for 2 years, what is the total amount she will get?
2. Jethalal took a housing loan of $2,50,000$ rupees from a bank at 10 p.c.p.a. for 5 years. What is the yearly interest he must pay and the total amount he returns to the bank?
3. At a certain rate of interest, the interest after 4 years on 5000 rupees principal is 1200 rupees. What would be the interest on 15000 rupees at the same rate of interest for the same period?
4. If Pankaj deposits $1,50,000$ rupees in a bank at 10 p.c.p.a. for two years, what is the total amount he will get from the bank?

## Practice Set - 33

1. If the interest on 1700 rupees is 340 rupees for 2 years the rate of interest must be $\qquad$ .. .
(i) $12 \%$ (ii) $15 \%$ (iii) $4 \%$ (iv) $10 \%$
2. If the interest on 3000 rupees is 600 rupees at a certain rate for a certain number of years, what would the interest be on 1500 rupees under the same conditions ?
(i) 300 rupees
(ii) 1000 rupees
(iii) 700 rupees (iv) 500 rupees
3. Javed deposited 12000 rupees at 9 p.c.p.a. in a bank for some years, and withdrew his interest every year. At the end of the period, he had received altogether 17,400 rupees. For how many years had he deposited his money ?

## 1. Complete the table below.

| Sr. No. | Radius (r) | Diameter (d) | Circumference (c) |
| :--- | :--- | :--- | :--- |
| (i) | 7 cm | $\ldots \ldots \ldots .$. | $\ldots \ldots .$. |
| (ii) | $\ldots \ldots \ldots .$. | 28 cm | $\ldots \ldots \ldots$ |
| (iii) | $\ldots \ldots . .$. | $\ldots \ldots .$. | 616 cm |
| (iv) | $\ldots \ldots . .$. | $\ldots . . . .$. | 72.6 cm |

2. If the circumference of a circle is 176 cm , find its radius.
3. The radius of a circular garden is 56 m . What would it cost to put a 4-round fence around this garden at a rate of 40 rupees per metre?
4. The wheel of a bullock cart has a diameter of 1.4 m . How many rotations will the wheel complete as the cart travels 1.1 km ?

## Practice Set - 35

1. If the side of a square is 12 cm , find its area.
2. If the length of a rectangle is 15 cm and breadth is 5 cm , find its area.
3. The area of a rectangle is 102 sqcm . If its length is 17 cm , what is its perimeter?
4. If the side of a square is tripled, how many times will its area be as compared to the area of the original square ?

## Practice Set - 36

1. A page of a calendar is 45 cm long and 26 cm wide. What is its area ?
2. What is the area of a triangle with base 4.8 cm and height 3.6 cm ?
3. What is the value of a rectangular plot of land 75.5 m long and 30.5 m broad at the rate of 1000 rupees per square metre ?
4. A rectangular hall is 12 m long and 6 m broad. Its flooring is to be made of square tiles of side 30 cm . How many tiles will fit in the entire hall ? How many would be required if tiles of side 15 cm were used?

## Practice Set - 37

1. Find the total surface area of cubes having the following sides.
(i) 3 cm (ii) 5 cm (iii) 7.2 m (iv) 6.8 m (v) 5.5 m
2. Find the total surface area of the cuboids of length, breadth and height as given below:
(i) $12 \mathrm{~cm}, 10 \mathrm{~cm}, 5 \mathrm{~cm}$ (ii) $5 \mathrm{~cm}, 3.5 \mathrm{~cm}, 1.4 \mathrm{~cm}$ (iii) $2.5 \mathrm{~cm}, 2 \mathrm{~m}, 2.4 \mathrm{~m}$ (iv) $8 \mathrm{~m}, 5 \mathrm{~m}, 3.5 \mathrm{~m}$
3. A matchbox is 4 cm long, 2.5 cm broad and 1.5 cm in height. Its outer sides are to be covered exactly with craft paper. How much paper will be required to do so ?
4. An open box of length 1.5 m , breadth 1 m , and height 1 m is to be made for use on a trolley for carrying garden waste. How much sheet metal will be required to make this box? The inside and outside surface of the box is to be painted with rust proof paint. At a rate of 150 rupees per sqm, how much will it cost to paint the box?

## Practice Set - 38

1. Find the Pythagorean triplets from among the following sets of numbers.
(i) $3,4,5$ (ii) $2,4,5$ (iii) $4,5,6$ (iv) $2,6,7$ (v) $9,40,41$ (vi) $4,7,8$
2. The sides of some triangles are given below. Find out which ones are right-angled triangles?
(i) $8,15,17$ (ii) $11,12,15$ (iii) $11,60,61$ (iv) $1.5,1.6,1.7$ (v) $40,20,30$

## Practice set-39

1. Expand.
(i) $(5 a+6 b)^{2}$ (ii) $(2 p-3 q)^{2}$ (iii) $(a x+b y)^{2}$ (iv) $(7 m-4)^{2}$
2. Of which of the binomials given below is $m^{2} n^{2}+14 m n p q+49 p^{2} q^{2}$ the expansion?
(i) $(m+n)(p+q)$ (ii) $(m n-p q)(i i i)(7 m n+p q)$ (iv) $(m n+7 p q)$
3. Use an expansion formula to find the values.
(i) $(997)^{2}$ (ii) $(102)^{2}$ (iii) $(97)^{2}$ (iv) $(1005)^{2}$

## Practice Set - 40

1. Use the formula to multiply the following.
(i) $(x+y)(x-y)(i i)(3 x-5)(3 x+5)(i i i)(a+6)(a-6)$
2. Use the formula to find the values.
(i) $502 \times 498$ (ii) $97 \times 103$ (iii) $54 \times 46$ (iv) $98 \times 102$

## Practice Set - 41

## Factorise the following expressions and write them in the product form.

(i) $201 \mathrm{a}^{3} \mathrm{~b}^{2}$, (ii) $91 \mathrm{xyt}^{2}$, (iii) $24 \mathrm{a}^{2} \mathrm{~b}^{2}$, (iv) $\mathrm{tr}^{2} \mathrm{~s}^{3}$

## Practice Set - 42

## Factorise the following expressions.

(i) $p^{2}-q^{2}$ (ii) $4 x^{2}-25 y^{2}$ (iii) $y^{2}-4$ (iv) $2 x^{2}-8 y^{2}$ (v) $a^{2} b-a b$

## Practice Set - 43

1. The daily rainfall for each day of a week in a certain city is given in millimetres. Find the average rainfall during the week.

9, 11, 8, 20, 10, 16, 12
2. During the annual function of a school, a Women's Self-helf Group had set up a snacks stall. Their sales every hour were worth Rs. 960 , Rs. 830 , Rs. 945, Rs. 800 , Rs. 847, Rs. 970 respectively. What was the average of the hourly sales?
3. The annual rainfall in Vidarbha in five years is given below. What is the average rainfall for those 5 years ? $900 \mathrm{~mm}, 650 \mathrm{~mm}, 450$ $\mathrm{mm}, 733 \mathrm{~mm}, 400 \mathrm{~mm}$
4. A farmer bought some sacks of animal feed. The weights of the sacks are given below in kilograms. What is the average weight of the sacks ? 49.8, 49.7, 49.5, 49.3, 50, 48.9, 49.2, 48.8

## Practice Set - 44

1. The height of 30 children in a class is given in centimetres. Draw up a freqency table of this data.
$131,135,140,138,132,133,135,133,134,135,132,133,140,139,132,131,134,133,140,140,139,136,137,136,139,137$, 133, 134, 131, 140
2. In a certain colony, there are 50 families. The number of people in every family is given below. Draw up the frequency table.
$5,4,5,4,5,3,3,3,4,3,4,2,3,4,2,2,2,2,4,5,1,3,2,4,5,3,3,2,4,4,2,3,4,3,4,2,3,4,5,3,2,3,2,3,4,5,3,2,3,2$
3. A dice was cast 40 times and each score noted is given below. Draw up a frequency table for this data.
$3,2,5,6,4,2,3,1,6,6,2,3,5,3,5,3,4,2,4,5,4,2,6,3,3,24,3,3,4,1,4,3,3,2,2,5,3,3,4$
4. The number of chapatis that 30 children in a hostel need at every meal is given below. Make a frequency table for these scores.
$3,2,2,3,4,5,4,3,4,5,2,3,4,3,2,5,4,4,4,3,3,2,2,2,3,4,3,2,3,2$
