INTERNATIONAL SOCIETY FOR OLYMPIAD

Empowering children to become Global Olympiad Champions

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MATHS OLYMPIAD

PRACTICE BOOK

GRADE 7

The Math Olympiad series is an initiative of International Society for Olympiad (ISFO)

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Any errors or omissions are unintentional. We would be grateful for notification of corrections that should be incorporated in the future reprints.

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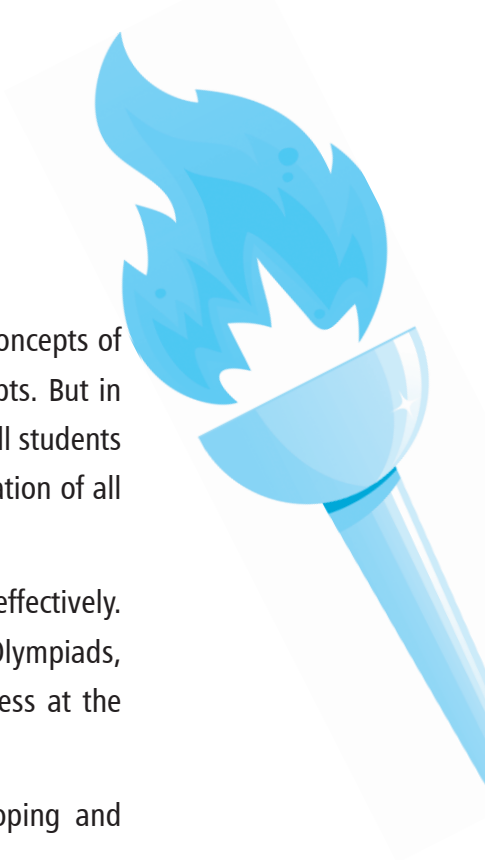
Preface



Our education system effectively provides an introduction to the concepts of Math and Science and helps us understand the underlying concepts. But in its overly generalized approach, which aims to enlighten and test all students of varying caliber and interests, it leaves the exploration of application of all these concepts completely on the students.

This workbook is designed to enable students to explore Maths effectively. Designed in accordance with the requirements of the Maths Olympiads, the workbook is an efficient tool to achieve comprehensive success at the **ISFO – Maths Olympiad.**

The main aim of this workbook is to assist students in developing and improving their ability to solve problems.

Each chapter of the book consists of 3 sets of questions.

- **Section A** (Mathematical Reasoning) : This section is created to test the knowledge of mathematical concepts and topic pertaining to the respective grades.
- **Section B** (Everyday Maths) : This section deals with the application.
- **Section C** (BrainBox) : Questions to prepare students with HOTS (Higher Order Thinking Skills) based on the syllabus provided.

Logical Reasoning section is provided to equip students with verbal and non-verbal analysis and reasoning skills.

Sample Test Papers and Answer keys have been provided to accelerate the learning process.

Contents

Chapter 1

Integers

SECTION - A : MATHEMATICAL REASONING

1. When a non-zero integer n is multiplied by its reciprocal, then the product is

a. 0 b. 2
c. 1 d. – 1

2. When we subtract – 493 from – 8025 we get,

a. 7530 b. – 6530
c. – 8530 d. – 7532

3. The multiplicative inverse of –15 is

a. $\frac{1}{15}$ b. $\frac{1}{-15}$
c. 1 d. – 1

4. What is the additive inverse of 352?

a. 0 b. 1
c. – 352 d. $\frac{1}{-352}$

5. The value of $[\{490 - (-50) \times -3\} - 250] \div 5$ is

a. 18 b. – 18
c. 15 d. – 15

6. Which of the following pair of numbers does not have the product equal to 24?

a. –2, 12 b. –2, –12
c. 6, 4 d. –3, –8

7. The value of $\frac{1}{6}x + 21$, when $x = -60$, is

a. 31 b. – 31
c. 11 d. – 11

8. A number remains unchanged when it is multiplied by

a. 0 b. 1
c. 2 d. itself

9. Which number is a multiplicative identity for whole numbers?

a. 0 b. 1
c. 2 d. 3

10. If the sum of two integers is – 17 and one of them is – 9, then the other number is

a. 8 b. – 8
c. 26 d. –26

11. The statement "when an integer is added to itself, the sum is less than the integer" is

a. always true
b. never true
c. true only when integer is negative
d. true when this integer is zero or positive

12. Which of the following statements is false?

a. (–3) + (–11) is an integer.
b. (–19) + 13 = 13 + (–19)
c. (–15) + 0 = –15 = 0 + (–15)
d. Negative of – 7 does not exist.

13. The number of integers between –1 and 1 is

a. 0 b. 1
c. 2 d. 3

14. Which list of integers is in order from the least to the greatest?

a. $-33, 37, 5, 615, -9$
b. $5, -9, 37, -33, 615$
c. $-33, -9, 5, 37, 615$
d. $-33, 5, -9, 37, 615$

15. The value of $-\frac{7}{6}x + 21$, when $x = -60$, is

a. 91 b. -91
c. 49 d. -49

16. The dividend, which when divided by –25 gives 154 as the quotient, is

a. –3850 b. 3880
c. 3850 d. –3880

17. What would be the quotient when 22572 is divided by –18?

a. 1234 b. –1254
c. 1254 d. –1243

18. The product of two integers is –2700. If one of them is 25, then the other integer is

a. –104 b. 102
c. 108 d. –108

19. When 3500 is divided by a number x, the quotient is –125. The value of x is

a. –28 b. –26
c. 28 d. 25

20. A point P is 250 m below the sea level and another point Q is 521 m above the sea level. The distance between these two points is

a. 671 m b. 662 m
c. 781 m d. 771 m

SECTION - B : EVERYDAY MATHS

21. In an examination, 6 marks are given for every correct answer and (–3) marks are given for every incorrect answer. Abhinav scored 45 marks. If he got 12 correct answers, then how many questions did he answer incorrectly?

a. 8 b. 7
c. 9 d. 10

22. The initial temperature of an object is 15 °C. It is decreasing by 4 °C per min. The temperature after 10 minutes is

a. –25 °C
b. 25 °C
c. –35 °C
d. 35 °C

23. Rashmi deposited ₹4370 in her account on Monday and then withdrew ₹2875 on Tuesday. The next day, she deposited ₹1550. What was her balance in the account on Thursday?

a. ₹3045 b. ₹8795
c. ₹5695 d. ₹3145

24. A submarine sails down 836 ft. If it rises at a rate of 22 ft per minute, then what was the depth of the submarine after 12 minutes?

a. 452 ft b. –472 ft
c. –572 ft d. 472 ft

25. In Buffalo in New York, the temperature was –14 °C in the morning. If the temperature dropped by 7 °C by evening, then what is the temperature now?

a. 21 °C b. 20 °C
c. –21 °C d. –20 °C

SECTION - C : BRAINBOX

26. $\left(\frac{-56 \div [7+(-14)]}{3 \div (19+2)}\right)$ **equals to**

a. 56 b. 38

c. 46 d. 60

27. There are 27 cars and motorcycles in a parking. If there are 84 wheels altogether, then how many cars are there in all?

a. 23 b. 14

c. 15 d. 16

28. Which of the following is the correct match?

A. Absolute value of 0 is	(i) 1
B. Sum of two negative integer is always ___ integer	(ii) –1
C. The smallest +ve integer is	(iii) 0
D. The largest –ve integer is	(iv) –ve

a. A → iii, B → iv, C → i, D → ii

b. A → iv, B → iii, C → ii, D → i

c. A → i, B → ii, C → iii, D → iv

d. A → ii, B → i, C → iv, D → iii

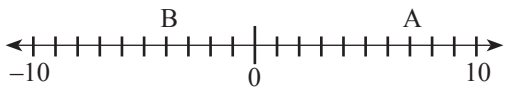
29. The next number in the pattern

–62, –37, –12, _____ is

a. 25 b. 13

c. 0 d. –13

30. By observing the given number line, which of the following statements is not true?



a. B is greater than –10

b. A is greater than 0

c. B is greater than A

d. B is smaller than 0

Darken your choice with HB pencil

1.	a b c d	9.	a b c d	17.	a b c d	25.	a b c d
2.	a b c d	10.	a b c d	18.	a b c d	26.	a b c d
3.	a b c d	11.	a b c d	19.	a b c d	27.	a b c d
4.	a b c d	12.	a b c d	20.	a b c d	28.	a b c d
5.	a b c d	13.	a b c d	21.	a b c d	29.	a b c d
6.	a b c d	14.	a b c d	22.	a b c d	30.	a b c d
7.	a b c d	15.	a b c d	23.	a b c d		
8.	a b c d	16.	a b c d	24.	a b c d		

Chapter

2

Rational Numbers

SECTION - A : MATHEMATICAL REASONING

1. Which of the following rational numbers is an equivalent rational number of $\frac{-192}{108}$ with numerator –16?

a. $\frac{16}{9}$ b. $\frac{-16}{9}$

c. $\frac{9}{16}$ d. $\frac{-9}{16}$

2. A rational number is defined as a number that can be expressed in the form of $\frac{p}{q}$ where p and q are integers and

a. $q = 0$ b. $q = 1$

c. $q \neq 1$ d. $q \neq 0$

3. Which of the following is equivalent to $\frac{4}{5}$?

a. $\frac{5}{4}$ b. $\frac{16}{25}$

c. $\frac{16}{20}$ d. $\frac{15}{25}$

4. A rational number $\frac{p}{q}$ is said to be in standard form if q is positive and the integers p and q have no common divisor other than

a. 0 b. –1

c. 1 d. 2

5. If $\frac{-5}{7} = \frac{x}{28}$, then the value of x is

a. –20 b. 20

c. 30 d. –30

6. Which is greater — $\frac{-4}{9}$ or $\frac{5}{-12}$?

a. $\frac{-4}{9}$ b. $\frac{5}{-12}$

c. Both are equal d. None of these

7. For any two rational numbers x and y, which of the following is/are correct, if x is positive and y is negative?

I. $x < y$ II. $x = y$ III. $x > y$

a. Both I and II b. Both II and III

c. Only III d. I, II and III

8. Which of the following statements is true?

a. 1 and – 1 are reciprocals of themselves.

b. Zero has no reciprocal.

c. The product of two rational numbers is a rational number.

d. All of these

9. The difference of $\frac{-5}{7}$ and $\frac{-3}{8}$ is

a. $\frac{19}{56}$ b. $\frac{18}{56}$

c. $\frac{-19}{56}$ d. $\frac{-18}{56}$

10. Which of the following is the greatest?

a. $\frac{-1}{2}$ b. 0

c. $\frac{1}{2}$ d. –2

11. The reciprocal of $\frac{-3}{8} \times \frac{-7}{13}$ is

a. $\frac{104}{21}$ b. $\frac{-104}{21}$

c. $\frac{103}{21}$ d. $\frac{-103}{21}$

12. The product of two numbers is $\frac{-28}{81}$. If one of the numbers is $\frac{14}{27}$, then the other is

a. $\frac{2}{3}$ b. $\frac{-2}{3}$

c. $\frac{1}{3}$ d. $\frac{-1}{3}$

13. **How many rational numbers are there between any two rational numbers?**

a. 1 b. 0

c. Unlimited d. 100

14. $\frac{5}{-7} = \frac{\square}{35}$

What is the missing number?

a. 25 b. −25

c. 10 d. −10

15. **Two rational numbers are said to be equal if they have the same**

a. positive numbers

b. negative numbers

c. standard form

d. none of these

16. **Which of the following set of rational numbers is in ascending order?**

a. $\frac{9}{4}, \frac{8}{-6}, \frac{-6}{8}, \frac{7}{11}, \frac{27}{25}$

b. $\frac{27}{25}, 2\frac{1}{4}, \frac{-6}{8}, \frac{8}{-6}, \frac{7}{11}$

c. $\frac{-8}{6}, \frac{-6}{8}, \frac{7}{11}, \frac{27}{25}, \frac{9}{4}$

d. $\frac{9}{4}, \frac{27}{25}, \frac{7}{11}, \frac{-6}{8}, \frac{-8}{6}$

17. **Which of the following rational numbers is in descending order?**

a. $\frac{9}{11}, \frac{2}{3}, \frac{5}{8}, \frac{1}{3}, \frac{-5}{8}, \frac{-7}{9}$

b. $\frac{2}{3}, \frac{5}{8}, \frac{1}{3}, \frac{-5}{8}, \frac{-7}{9}, \frac{9}{11}$

c. $\frac{-7}{9}, \frac{-5}{8}, \frac{1}{3}, \frac{5}{8}, \frac{-7}{9}, \frac{9}{11}$

d. $\frac{1}{3}, \frac{5}{8}, \frac{2}{3}, \frac{-5}{8}, \frac{-7}{9}$

18. **Which of the following is not a rational number?**

a. $\frac{27}{7}$ b. $5 \times 10 - 2$

c. 0 d. π

19. **The product of $\frac{-3}{11}$ and $2\frac{5}{8}$ is**

a. $\frac{64}{88}$ b. $\frac{63}{88}$

c. $\frac{-63}{88}$ d. $\frac{-64}{88}$

20. **The quotient of $2\frac{11}{13}$ and $\frac{13}{11}$ is**

a. $\frac{407}{169}$ b. $\frac{704}{169}$

c. $\frac{169}{204}$ d. $\frac{408}{169}$

SECTION - B : EVERYDAY MATHS

21. **From a rope of length 36 m, equal pieces are cut. If length of one piece is $4\frac{1}{4}$ m, then the number of such pieces is**

a 8 b. 4

c. 16 d. 20

22. **If 12 shirts of equal size can be prepared from a piece of cloth of length 27 m, then what is length of cloth required for each shirt?**

a. $\frac{4}{9}$ m b. $\frac{9}{4}$ m

c. $\frac{5}{4}$ m d. $\frac{7}{4}$ m

23. **The number of students studying English or maths or both is 150. However, 62% of the students are studying English and 68% of the students are studying maths. How many students are studying both?**

a. 45 b. 54

c. 35 d. 53

24. A body floats in water with $\frac{7}{9}$ of its volume in water. What is the ratio of the volume of the body in water to its volume outside water?

a. 2 : 7
b. 3 : 7
c. 7 : 2
d. 7 : 3

25. From his home, Rahul walked $\frac{6}{7}$ km towards his school and then returns $\frac{5}{6}$ km through the same way towards his home to reach a landmark. At what distance will he be now from his home?

a. $\frac{1}{42}$ km b. $\frac{1}{43}$ km
c. $\frac{30}{42}$ km d. $\frac{11}{42}$ km

SECTION - C : BRAINBOX

26. Which of the following statements is true?

i. The rational number $\frac{29}{23}$ lies to the left of zero on the number line.

ii. The rational number $\frac{-12}{-17}$ lies to the left of zero on the number line.

iii. The rational number $\frac{3}{4}$ lies to the right of zero on the number line.

iv. The rational number $\frac{-12}{5}$ and $\frac{7}{-3}$ are on the opposite sides of the number line.

v. The rational number $\frac{-3}{-5}$ is on the right of $\frac{-4}{7}$ on the number line.

a. i, ii and v b. iii and v
c. iv and v d. i, ii and iii

27. Which of the following is the correct match?

Column I	Column II
i. $\frac{a}{b} \div \frac{a}{b}$	a. $-\frac{a}{b}$
ii. $\frac{a}{b} \div \frac{c}{d}$	b. -1
iii. $\frac{a}{b} \div (-1)$	c. 1
iv. $\frac{a}{b} \div -\frac{a}{b}$	d. $\frac{bc}{ad}$
v. $\frac{b}{a} \div \frac{d}{c}$	e. $\frac{ad}{bc}$

a. i - c, ii - e, iii - a, iv - b, v - d
b. i - b, ii - e, iii - a, iv - c, v - d
c. i - c, ii - e, iii - b, iv - a, v - d
d. i - d, ii - e, iii - a, iv - c, v - b

28. If $x = \frac{1}{10}$, $y = \frac{-3}{8}$, then the value of $x + y$; $x - y$; $x \times y$; $x \div y$ is

a. $\frac{-22}{80}, \frac{38}{80}, \frac{-3}{80}, \frac{-8}{30}$
b. $\frac{-8}{30}, \frac{-3}{80}, \frac{38}{80}, \frac{-22}{80}$
c. $\frac{38}{80}, \frac{-22}{80}, \frac{-8}{30}, \frac{-3}{80}$
d. $\frac{-3}{80}, \frac{-8}{30}, \frac{-22}{80}, \frac{38}{80}$

29. Read the following statements.

I. The number P is neither a positive nor a negative rational number.

II. There are Q number of rational numbers between two rational numbers.

III. A rational number is defined as a number which can be expressed in the form of $\frac{p}{q}$, where p and q are R and q is not equal to S.

Which of the following represent P, Q, R and S in the above statements?

	P	Q	R	S
a.	1	limited	whole numbers	0
b.	0	limited	integers	1
c.	1	unlimited	whole numbers	0
d.	0	unlimited	integers	0

30. Read the following statements.

I. Every integer is a rational number and so, every fraction is a rational number.

II. A rational number $\frac{p}{q}$ is positive if p and q are either both positive or both negative.

III. A rational number $\frac{p}{q}$ is negative if only one of p and q is positive and the other is negative.

IV. If there are two rational numbers with a common denominator, then the one with the larger numerator is larger than the other.

Which of the above statements hold true?

a. Both 1 and 4
b. Both 2 and 3
c. Only 1
d. All of the above

Darken your choice with HB pencil

1.	a	b	c	d	9.	a	b	c	d	17.	a	b	c	d	25.	a	b	c	d
2.	a	b	c	d	10.	a	b	c	d	18.	a	b	c	d	26.	a	b	c	d
3.	a	b	c	d	11.	a	b	c	d	19.	a	b	c	d	27.	a	b	c	d
4.	a	b	c	d	12.	a	b	c	d	20.	a	b	c	d	28.	a	b	c	d
5.	a	b	c	d	13.	a	b	c	d	21.	a	b	c	d	29.	a	b	c	d
6.	a	b	c	d	14.	a	b	c	d	22.	a	b	c	d	30.	a	b	c	d
7.	a	b	c	d	15.	a	b	c	d	23.	a	b	c	d					
8.	a	b	c	d	16.	a	b	c	d	24.	a	b	c	d					

Chapter

3

Exponents and Powers

SECTION - A : MATHEMATICAL REASONING

1. **For a non-zero rational number x, $x^8 \div x^2$ is equal to**

a. x^4 b. x^6

c. x^{10} d. x^{16}

2. **If x is a non-zero rational number, then the product of square of x with cube of x is equal to**

a. xecond power of x

b. third power of x

c. fifth power of x

d. sixth power of x

3. **$(1° + 2° + 3°)$ is equal to**

a. 0 b. 1

c. 3 d. 6

4. **The value of $\frac{10^{20} + 10^{22}}{10^{20}}$ is**

a. 10 b. 10^{42}

c. 101 d. 10^{22}

5. **Which of the following is equal to 1?**

a. $2° + 3° + 4°$

b. $2° \times 3° \times 4°$

c. $(3° - 2°) \times 4°$

d. $(3° - 2°) \times (3° + 2°)$

6. **In standard form, the number 72105.4 is written as 7.21054×10^n, where n is equal to**

a. 2 b. 3

c. 4 d. 5

7. **Which of the following is the largest?**

a. 0.001 b. $\frac{1}{10000}$

c. $\frac{1}{10^6}$ d. $\frac{1}{10^6} \div 0.1$

8. **In standard form, 72×10^6 is written as**

a. 72×10^7 b. 72×10^8

c. 7.2×10^8 d. 7.2×10^7

9. **Which of the following is a cube of a prime number?**

a. 68921 b. 39304

c. 110592 d. 9261

10. **If $\left(\frac{3}{2}\right)^2 \times \left(\frac{3}{2}\right)^{a+5} = \left(\frac{3}{2}\right)^8$, then a =**

a. -1 b. 0

c. 1 d. 2

11. **If $\left(\frac{5}{9}\right)^4 \times \left(\frac{5}{9}\right)^{-10} = \left(\frac{5}{9}\right)^{-4} \left(\frac{5}{9}\right)^{2a-1}$, then the value of a is**

a. 1 b. $\frac{-5}{2}$

c. $\frac{-5}{4}$ d. $\frac{-1}{2}$

12. **If $\left(\frac{2}{9}\right)^2 \times \left(\frac{2}{9}\right)^{-6} = \left(\frac{2}{9}\right)^{3m-1}$, then the value of m is**

a. -1 b. 1

c. 0 d. 2

13. **$\left\{\left(\frac{1}{3}\right)^2\right\}^4$ is equal to**

a. $\left(\frac{1}{3}\right)^6$ b. $\left(\frac{1}{3}\right)^8$

c. $\left(\frac{1}{3}\right)^{24}$ d. $\left(\frac{1}{3}\right)^{16}$

14. The standard form of $\frac{1}{1000000}$ m is

a. 10^{-6} m b. 10^{-7} m

c. 10^{-5} m d. 10^{-8} m

15. By what number should $\left(\frac{-3}{2}\right)^{-3}$ be divided so that the quotient is $\left(\frac{4}{27}\right)^{-2}$?

a. $2 \times \left(\frac{4}{27}\right)^{3}$ b. $\left(\frac{4}{27}\right)^{3}$

c. $-2 \times \left(\frac{4}{27}\right)^{3}$ d. $\left(\frac{27}{4}\right)^{3}$

16. A student wrote the number 256800000 in a scientific notation as 2.568×10^{k}. The value of k is

a. 5 b. 6

c. 7 d. 8

17. The value of $\frac{x^{13} \times y^{14} \times (xy)^5 \times (xyz)^{12}}{(xyz)^4 \times x^{10}}$ is

a. $x^{16} \times y^{27} \times z^8$ b. $x^{27} \times y^{16} \times z^8$

c. $x^{20} \times y^{16} \times z^0$ d. $x^{16} \times y^{16} \times z^{16}$

18. A monument is visited by 2^{10} people. Out of which, 35 are foreigners. How many people are from India?

a. 871 b. 989

c. 971 d. 881

19. The distance between the Earth and the Moon is 38,44,00,000 m. The distance in scientific notation will be written as

a. 3.844×10^8 m

b. 38.44×10^8 m

c. 0.3844×10^9 m

d. 384.4×10^7 m

20. Which of the following relations is correct?

a. $5.63 \times 10^{15} > 3.25 \times 10^{13}$

b. $3.25 \times 10^{13} \leq 5.63 \times 10^{15}$

c. $5.63 \times 10^{15} < 3.25 \times 10^{13}$

d. $3.25 \times 10^{13} \geq 5.63 \times 10^{15}$

SECTION - B : EVERYDAY MATHS

21. If the diameter of the Sun and that of the Earth are 1.4×10^9 *m* and 1.275×10^7 m, respectively, then which of the following is correct?

a. The diameter of Sun is 100 times the diameter of Earth

b. The diameter of Earth is 100 times the diameter of Sun

c. The diameter of Sun is 200 times the diameter of Earth

d. The diameter of Earth is 200 times the diameter of Sun

22. All the planets revolve around the Sun in elliptical orbits. Uranus's farthest distance from the Sun is approximately 3.004×10^9 km and its closest distance is approximately 2.7499×10^9 km. What is the average distance of Uranus from the Sun?

a. (2.476×10^9) km b. (2.876×10^9) km

c. (2.876×10^8) km d. None of these

23. Mrs Anita asked two of her students—Vinita and Avi to solve the expression $\left(\frac{9a^3b^{-8}}{81a^{-5}b^2}\right)^{-\frac{1}{2}}$ and write the answer on the blackboard. Vinita wrote the answer as $3\,a^{-4}b^5$ whereas Avi wrote the answer as $\frac{3b^5}{a^4}$. Who wrote the correct answer?

a. Vinita b. Avi

c. Both of them d. None of these

24. A square garden has as many trees in one row as the number of rows in the garden. If the total number of trees in the garden is 7225, then the number of rows is

a. 25 b. 49

c. 85 d. 121

25. A sugar factory has annual sales of 3 billion 720 million kilograms of sugar. The sales of sugar in standard form is

a. 3.72×10^9 Kg b. 37.2×10^5 Kg
c. 37.2×10^9 Kg d. 3.72×10^{-9} Kg

SECTION - C : BRAINBOX

26. Which of the following statements is true?

i. The multiplicative inverse of $(-4)^{-2}$ is $(4)^{-2}$.
ii. a is called the multiplicative inverse of b if $a \times b = 1$.
iii. $74.5° = 5$
iv. Value of $\frac{1}{4^{-2}}$ is equal to 16.
v. Usual form of 2×10^{-2} is not equal to 0.02.

a. ii and iv
b. i, ii and iii
c. iii and v
d. i and v

27. Which of the following replace the boxes with the correct symbol?

i. 3^2	☐	**15**
ii. 2^3	☐	3^2
iii. 7^4	☐	5^4
iv. 10000	☐	10^5
v. 6^3	☐	4^4

a. i. >, ii. <, iii. >, iv. <, v. >
b. i. <, ii. <, iii. >, iv. <, v. <
c. i. >, ii. >, iii. = , iv. = , v. <
d. i. =, ii. <, iii. >, iv. = , v. <

28. Which of the following is the correct match?

1. $\frac{a^m}{a^n}$	**i.** $\frac{a^n}{b^n}$
2. $(a^m)^n$	**ii.** $a^n b^n$
3. $a^m \times a^n$	**iii.** a^{m-n} **where** $m > n$
4. $(a \times b)^n$	**iv.** a^{m+n}
5. $\left(\frac{a}{b}\right)^n$	**v.** a^{mn}

a. 1 → iii, 2 → v, 3 → iv, 4 → ii, 5 → i
b. 1 → i, 2 → ii, 3 → iii, 4 → iv, 5 → v
c. 1 → ii, 2 → i, 3 → iv, 4 → iii, 5 → v
d. 1 → v, 2 → iii, 3 → ii, 4 → iv, 5 → i

29. If $25^{x-1} + 100 = 5^{2x-1}$, then the value of x is

a. 1 b. 0
c. 2 d. 4

30. Which of the following exponential form will have 13 as the power?

a. $(12)^{-2} \times (12)^{-11}$ b. $(12)^{-4} \times (12)^{-9}$
c. $(12)^{15} \times (12)^{-2}$ d. $(12)^7 \times (12)^5$

Darken your choice with HB pencil

1.	(a) (b) (c) (d)	9.	(a) (b) (c) (d)	17.	(a) (b) (c) (d)	25.	(a) (b) (c) (d)
2.	(a) (b) (c) (d)	10.	(a) (b) (c) (d)	18.	(a) (b) (c) (d)	26.	(a) (b) (c) (d)
3.	(a) (b) (c) (d)	11.	(a) (b) (c) (d)	19.	(a) (b) (c) (d)	27.	(a) (b) (c) (d)
4.	(a) (b) (c) (d)	12.	(a) (b) (c) (d)	20.	(a) (b) (c) (d)	28.	(a) (b) (c) (d)
5.	(a) (b) (c) (d)	13.	(a) (b) (c) (d)	21.	(a) (b) (c) (d)	29.	(a) (b) (c) (d)
6.	(a) (b) (c) (d)	14.	(a) (b) (c) (d)	22.	(a) (b) (c) (d)	30.	(a) (b) (c) (d)
7.	(a) (b) (c) (d)	15.	(a) (b) (c) (d)	23.	(a) (b) (c) (d)		
8.	(a) (b) (c) (d)	16.	(a) (b) (c) (d)	24.	(a) (b) (c) (d)		

Chapter

4

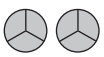
Fractions and Decimals

SECTION - A : MATHEMATICAL REASONING

1. The pictorial representation of $3 \times \frac{2}{3}$ is

a. 

b. 

c. 

d. 

2. The product of 0.03 and 0.9 is

a. 2.7 b. 0.27

c. 0.027 d. 0.0027

3. Which of the following expression does the picture  represent?

a. $\frac{1}{4} \div 3$ b. $3 \times \frac{1}{4}$

c. $\frac{3}{4} \times 3$ d. $3 \div \frac{1}{4}$

4. The value of $(0.3) \times (0.3) - (0.2) \times (0.2)$ is

a. 0.5 b. 0.05

c. 0.005 d. 5

5. Which of the following will replace the box in the given expression?

$\frac{3}{7} \times \square = \frac{15}{98}$

a. $\frac{5}{14}$ b. $\frac{14}{5}$

c. $\frac{5}{13}$ d. $\frac{13}{5}$

6. What fraction does the letter R of the English alphabet represent on the number line?

a. $\frac{1}{4}$ b. $\frac{1}{2}$

c. $\frac{9}{4}$ d. $\frac{3}{4}$

7. The expanded form of 803.20 is

a. $8 \times 100 + 3 \times 1 + 2 \times \frac{1}{10} + 7 \times \frac{1}{1000}$

b. $8 \times 1000 + 0 \times 10 + 3 \times 1 + 2 \times \frac{1}{10} + 0 \times \frac{1}{10} \times \frac{1}{1000}$

c. $8 \times 100 + 3 \times 10 + \frac{2}{100} + 7$

d. $8 \times 100 + 3 \times 1 + \frac{2}{10} + 7$

8. What number should be added to 0.756 to get 1?

a. 2.44 b. 24.4

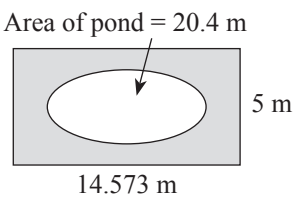
c. 244 d. 0.244

9. A jug contained 1.5 L of water. Jai poured the water equally into 7 cups. How much water will be there in each cup?

a. 0.20 L b. 0.22 L

c. 0.24 L d. 0.21 L

10. The figure shows a rectangular field with a pond in it. The area of the field is



a. 52.62 m^2 b. 52.42 m^2

c. 52.46 m^2 d. 52.56 m^2

11. The value of $\frac{(0.2 \times 0.14) + (0.5 \times 0.91)}{(0.1 \times 0.2)}$ is

a. 24.15 b. 2.415

c. 241.5 d. 2415

12. The decimal number not equivalent to 5.7 is

a. 5.70 b. 5.07

c. 5.700 d. 5.7000

13. The value of $2\frac{1}{2} - 3\frac{1}{4} + 5\frac{5}{6}$ is

a. $12\frac{1}{5}$ b. $1\frac{12}{5}$

c. $5\frac{1}{12}$ d. $1\frac{5}{12}$

14. The decimal number of $13\frac{7}{40}$ is

a. 131.75 b. 1.3175

c. 13.175 d. 1317.5

15. Anshul eats $\frac{4}{7}$ of a pizza. The fraction of the pizza left is

a. $\frac{3}{7}$ b. $\frac{2}{7}$

c. $\frac{5}{7}$ d. $\frac{1}{7}$

16. Which of the following set of fractions is in ascending order.

a. $\frac{2}{3}, \frac{1}{9}, \frac{5}{6}$ b. $\frac{2}{3}, \frac{5}{6}, \frac{1}{9}$

c. $\frac{1}{9}, \frac{2}{3}, \frac{5}{6}$ d. $\frac{5}{6}, \frac{2}{3}, \frac{1}{9}$

17. What should be added to $4\frac{5}{6}$ to get $8\frac{3}{10}$?

a. $\frac{15}{52}$ b. $\frac{52}{15}$

c. $\frac{58}{15}$ d. $\frac{54}{15}$

18. The mixed fraction of $\frac{135}{17}$ is

a. $7\frac{16}{17}$ b. $7\frac{15}{17}$

c. $8\frac{16}{17}$ d. $7\frac{14}{17}$

19. The value of $35.52 \div 7\frac{2}{5}$ of (3.2×0.5) is

a. 5.4 b. 2

c. 7.68 d. 3.3

20. The sum of two decimal numbers is 10.35. If one number is 5.9 times the other one, then the numbers are

a. 3.5, 9.5 b. 7.5, 2.5

c. 9.2, 8.5 d. 1.5, 8.85

SECTION - B : EVERYDAY MATHS

21. The normal body temperature is 98.6 °F. When Savitri was ill, her temperature rose to 103.1 °F. How many degrees above the normal temperature was her temperature?

a. 4.5 °F b. 5.4 °F

c. −5.4 °F d. −4.5 °F

22. Jaidev takes $2\frac{2}{5}$ minutes to walk across the school ground whereas Rahul takes $2\frac{1}{4}$ minutes for travelling the same distance. Who takes lesser time and by how much?

a. Jaidev, $\frac{20}{3}$ b. Rahul, $\frac{3}{20}$

c. Jaidev, $\frac{3}{20}$ d. Rahul, $\frac{7}{20}$

23. Raj distributes ₹1800 among his two sons. The older son gets ₹1100 and the younger son gets ₹700. What fraction of the total money does each child get?

a. $\frac{11}{18}, \frac{7}{18}$ b. $\frac{18}{11}, \frac{18}{7}$

c. $\frac{7}{18}, \frac{12}{18}$ d. $\frac{6}{18}, \frac{7}{18}$

24. Sharon can buy three dresses with one-fourth of the money she has. She can buy six dresses and two skirts with the remaining money. If she wants to buy only skirts, how many skirts can she buy with all her money?

a. 6 b. 8

c. 10 d. 12

25. Rahul purchased a notebook for ₹37.75, a pen for ₹5.80, a comic for ₹20.25 and a pencil for ₹15.25. He gave a 100-rupee note to the shopkeeper. How much did he get back?

a. ₹20.95 b. ₹2.095 c. ₹209.5 d. ₹2095

SECTION - C : BRAINBOX

26. On a bus, there were 54 children. There were four more boys than girls on the bus. How many boys were there on the bus?

a. 25 b. 33
c. 21 d. 29

27. In a stadium, $\frac{5}{8}$ of the spectators were adults and the rest were children. $\frac{1}{4}$ of the adults were women and $\frac{7}{8}$ of the children were boys. If there were 380 more male spectators than female spectators in the stadium, then how many men were there in all?

a. 250 men b. 300 men
c. 570 men d. 400 men

28. Mr Anuj has 38 pieces of copper and zinc wires. The length of all the copper wires is 20.4 m longer than the length of all the zinc wires. Each piece of copper wire is 1.8 m long while each piece of zinc wire is 1.2 m long. How many pieces of zinc wire does Mr Anuj have?

a. 16 b. 18
c. 26 d. 30

29. The value of $(4.7 \times 13.26 + 4.7 \times 9.43 + 4.7 \times 77.31)$ is

a. 470 b. 47
c. 0.47 d. 4.7

30. The ascending order of $\frac{2}{3}$, $\frac{6}{7}$ and $\frac{13}{21}$ is

a. $\frac{6}{7}, \frac{2}{3}, \frac{13}{21}$ b. $\frac{13}{21}, \frac{2}{3}, \frac{6}{7}$
c. $\frac{6}{7}, \frac{13}{21}, \frac{2}{3}$ d. $\frac{2}{3}, \frac{6}{7}, \frac{13}{21}$

Darken your choice with HB pencil

1.	a	b	c	d	9.	a	b	c	d	17.	a	b	c	d	25.	a	b	c	d
2.	a	b	c	d	10.	a	b	c	d	18.	a	b	c	d	26.	a	b	c	d
3.	a	b	c	d	11.	a	b	c	d	19.	a	b	c	d	27.	a	b	c	d
4.	a	b	c	d	12.	a	b	c	d	20.	a	b	c	d	28.	a	b	c	d
5.	a	b	c	d	13.	a	b	c	d	21.	a	b	c	d	29.	a	b	c	d
6.	a	b	c	d	14.	a	b	c	d	22.	a	b	c	d	30.	a	b	c	d
7.	a	b	c	d	15.	a	b	c	d	23.	a	b	c	d					
8.	a	b	c	d	16.	a	b	c	d	24.	a	b	c	d					

Chapter 5

Algebraic Expressions

SECTION - A : MATHEMATICAL REASONING

1. The product of $\frac{-5}{8}p^3q$ and $\frac{4}{5}pq^3$ is

a. $\frac{1}{2}p^4q^4$ b. $\frac{-1}{2}p^4q^4$

c. $\frac{-3}{2}p^4q^4$ d. $\frac{3}{2}p^4q^4$

2. The sum of $-5x^2 + 4xy - 4$ and $3x^2 - 2xy + 8$ is

a. $-2x^2 - 2xy + 4$

b. $-2x^2 - 2xy - 4$

c. $-2x^2 + 2xy + 4$

d. $2x^2 + 2xy + 4$

3. The value of $-3x + y - (-x) + (-4y)$ is

a. $2x + 3y$ b. $2x - 3y$

c. $-2x + 3y$ d. $-2x - 3y$

4. If $a = 2$ and $b = 3$, then the value of $2a^2 + ab$ is

a. 14 b. -14

c. 10 d. -12

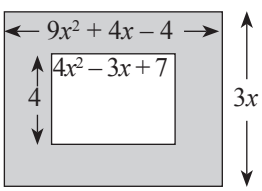
5. The area of the shaded region in the given figure is

a. $-27x^3 - 5x^2 - 28$

b. $27x^3 - 4x^2 - 28$

c. $27x^3 + 5x^2 + 28$

d. $-27x^3 + 5x^2 - 28$



6. The quotient of $(8x^3 + 4x^2 + 2x)$ and $2x$ is

a. $-4x^2 - 2x - 1$

b. $4x^2 + 2x - 1$

c. $4x^2 + 2x + 1$

d. $-4x^2 - 2x + 1$

7. The side of a cube is represented by $2x - 3$. The volume of the cube in term of x is

a. $16x^2 + 5x - 70$

b. $36x^3 + 2x - 36$

c. $10x + 75$

d. $8x^3 - 36x^2 + 54x - 27$

8. A sum of money is distributed among some pupils. If each pupil receives ₹$(x + 1)$, then there will be a shortage of ₹14. If each pupil receives ₹x, then there will be an excess of ₹4. How many pupils are there in all?

a. 16 b. 14

c. 18 d. 20

9. What is the degree of the given algebraic expression $3ab + 2b^2c^3 - 3a^3c^3$?

a. 1 b. 2

c. 3 d. 6

10. The coefficient of x in $-4xy^3z$ is

a. $-y^3z$ b. $-xy^3z$

c. $-4y^3z$ d. $4y^3z$

11. In the expression $2\pi r$, the algebraic variable is

a. 2r b. r

c. πr d. π

12 The length of the side of a square top of a table is a. The expression for its perimeter is

a. $4 + a$ b. $4a$

c. $8 + a$ d. $4a + 4$

13. Choose the odd one out.

a. $ax - ay$ b. $a(x - y)$

c. $(x - y)a$ d. $(y - x)a$

14. If $x + y = 12$ and $xy = 14$, then the value of $x^2 + y^2$ is

a. 116 b. 118

c. –116 d. –118

15. A polynomial of degree 1 is called

a. cubic polynomial

b. quadratic polynomial

c. linear polynomial

d. biquadratic polynomial

16. The length of each side of a square is $5a$. What will be its perimeter?

a. $2a$ b. $10a$

c. $25a$ d. $20a$

17. What should be added to $2x^2 + 6xy + y^2$ to obtain $2x^2 - 7xy$?

a. $-4xy^2 + y^2$ b. $-13xy - y^2$

c. $14x^2 + xy$ d. $-4x^2y^2 + y^2$

18. What should be taken away from $5x^2 - y^2 + 4xy + 15$ to obtain $-x^2 - y^2 - 5xy + 10$?

a. $6x^2 + 9xy + 5$ b. $3x^2 + 3xy + 5$

c. $6x^2 + 6xy + 5$ d. $8x^2 + 16xy + 15$

19. Three sides of a triangle are $s + 5t - 2$, $s - 8$ and $2s - 4t + 5$. What is the perimeter?

a. $4s - t + 5$ b. $6s + 2t - 3$

c. $4s + t - 5$ d. $6s + 2t - 3$

20. $3k - 8 + 8k - 1 =$

a. $11k - 10$ b. $11k + 9$

c. $11k + 10$ d. $11k - 9$

SECTION - B : EVERYDAY MATHS

21. Ram takes 'h' hours and 'm' minutes to complete a mini triathlon. His friend, Raju takes twice as long as to finish the race. The algebraic expression for the time taken by Raju to complete the race is

a. $120h - 2m$ b. $-120h - 2m$

c. $-120h + 2m$ d. $120h + 2m$

22. The value of $\frac{(c+a)^n}{ac^2} \div \frac{(c+a)^{n+2}}{a^2bc}$ is

a. $\frac{ab}{c(c-a)^2}$

b. $\frac{ab}{c(c+a)^2}$

c. $\frac{ab}{a(a+c)^2}$

d. $\frac{ac}{b(c+a)^2}$

23. Think of a number. Double the number. Subtract 6 from the result and divide the answer by 2. The quotient will be 20. What is the number?

a. 20 b. 21

c. 22 d. 23

24. The value of $\frac{2c^2 - 17c + 21}{c^2 - 6c - 7}$ is

a. $\frac{2c+3}{c+1}$ b. $\frac{2c-3}{c-1}$

c. $\frac{3c+2}{c+1}$ d. $\frac{2c-3}{c+1}$

25. Five added to a number gives 9. What is the number?

a. 4 b. 5

c. 6 d. 7

SECTION - C : BRAINBOX

26. Each symbol given below represents an algebraic expression

△ $= 2x^2 + 3y$, ○ $= 5x^2 + 3x$ and

□ $= 8y^2 - 3x^2 + 2x + 3y$

These symbols are, then, represented in the form of the expression

△ + ○ − □.

The expression represented by the above symbols is

a. $10x^2 - 8y^2 + x$ b. $8y^2 - 10x^2 + x$

c $-10x^2 - 8y^2 - x$ d. $10x^2 - 8y^2 - x$

27. Which of the following is the correct match?

	Column I	Column II
1.	The difference of 3 and a square of a number	i. $2x^2 - 5$
2.	Five less than twice the square of a number	ii. $x^2 + 6$
3.	Five minus twice the square of a number	iii. $3 - x^2$
4.	Four minus a number multiplied by 2	iv. $5 - 2x^2$
5.	The sum of a square of a number and six	v. $4 - 2x$

a. 1→iii, 2→i, 3→iv, 4→v, 5→ii

b. 1→i, 2→ii, 3→iii, 4→iv, 5→v

c. 1→ii, 2→i, 3→iv, 4→iii, 5→v

d. 1→iii, 2→v, 3→ii, 4→i, 5→iv

28. If △ $= 2x + 3$, □ $= \frac{3}{2}x + 7$ **and**

○ $= x - 3$, **then the value of**

$2\triangle_{x=6} + \boxed{x=3} - (x=1)$ **is**

a. 41.5 b. 43.5

c. 44.5 d. 42.5

29. If $A = 3x^2 - 4x + 1$, $B = 5x^2 + 3x - 8$ and $C = 4x^2 - 7x + 3$, then what is $(A + B) - C$ equal to?

a. $4x^2 + 6x - 10$ b. $4x^2 - 6x - 10$

c. $4x^2 + 6x + 10$ d. $-4x^2 - 6x - 10$

30. Which of the following represent the distributive property of multiplication over addition?

a. $x(y + z) = xy + xz$

b. $x(y + z) = xy - xz$

c. $x(y + z) = -xy - xz$

d. $x(y + z) = x - xz$

Darken your choice with HB pencil

1.	(a)	(b)	(c)	(d)	9.	(a)	(b)	(c)	(d)	17.	(a)	(b)	(c)	(d)	25.	(a)	(b)	(c)	(d)
2.	(a)	(b)	(c)	(d)	10.	(a)	(b)	(c)	(d)	18.	(a)	(b)	(c)	(d)	26.	(a)	(b)	(c)	(d)
3.	(a)	(b)	(c)	(d)	11.	(a)	(b)	(c)	(d)	19.	(a)	(b)	(c)	(d)	27.	(a)	(b)	(c)	(d)
4.	(a)	(b)	(c)	(d)	12.	(a)	(b)	(c)	(d)	20.	(a)	(b)	(c)	(d)	28.	(a)	(b)	(c)	(d)
5.	(a)	(b)	(c)	(d)	13.	(a)	(b)	(c)	(d)	21.	(a)	(b)	(c)	(d)	29.	(a)	(b)	(c)	(d)
6.	(a)	(b)	(c)	(d)	14.	(a)	(b)	(c)	(d)	22.	(a)	(b)	(c)	(d)	30.	(a)	(b)	(c)	(d)
7.	(a)	(b)	(c)	(d)	15.	(a)	(b)	(c)	(d)	23.	(a)	(b)	(c)	(d)					
8.	(a)	(b)	(c)	(d)	16.	(a)	(b)	(c)	(d)	24.	(a)	(b)	(c)	(d)					

Chapter

6 Simple Linear Equations

SECTION - A : MATHEMATICAL REASONING

1. **The solution of the equation $14 = 4y - 2$ is**

a. $y = -5$ b. $y = -2$

c. $y = 4$ d. $y = 6$

2. **Which of the following is not a linear equation?**

a. $x = 0$ b. $5 - (y + 2) = 5$

c. $2y = -2y + 6$ d. $-17 = -7$

3. **The solution of the equation $ax + b = 0$ is**

a. $x = \frac{a}{b}$ b. $x = \frac{b}{a}$

c. $x = \frac{-a}{b}$ d. $x = \frac{-b}{a}$

4. **If $\frac{2}{5}x - 2 = 5 - \frac{3}{5}$, then the value of $5x - 35$ is**

a. 16 b. 45

c. 80 d. –75

5. **The value of y for which the expressions $3y - 4$ and $2y + 1$ becomes equal is**

a. 6 b. –2

c. 5 d. 7

6. **A number, when increased by 8 equals twice the number decreased by 4. What is the original number?**

a. 12 b. –12

c. 8 d. 10

7. **If $k + 7 = 16$, then the value of $8k - 72$ is**

a. 0 b. 1

c. 112 d. 56

8. **x decreased by 3 is 7 can be written as**

a. $x + 3 = 2$ b. $x + 7 = 2$

c. $x - 3 = 7$ d. $x - 7 = 3$

9. **Ahmad has ₹9x. Daman has three times as much money as Ahmad. Hemant has two-third of the money of what Daman has. How much money do they have altogether?**

a. ₹40x b. ₹54x

c. ₹27x d. ₹30x

10. **In $\frac{2x-1}{3} + 1 = \frac{x-2}{3} + 2$, the value of x is**

a. 3 b. 2

c. 4 d. 1

11. **If the sum of two consecutive numbers is 53, then the numbers are**

a. 24, 25 b. 25, 26

c. 26, 27 d. 27, 28

12. **A Fahrenheit temperature °F, can be formed approximately by doubling the Celsius temperature °C approximately and adding 32 to it. Which of the following expressions represent this approximation?**

a. $\frac{1}{2} + 32$ b. $2C + 32$

c. $C(C + 32)$ d. $C^2 + 32$

13. **If $a + b = 6$, then $\frac{a+8+b}{2}$ =**

a. 3 b. 7

c. 10 d. 14

14. **The difference between one-half of a number and one-fifth of it is 561. The number is**

a. 168 b. 2805

c. 1870 d. 5610

15. James and Simon have a reading assignment. James has read r pages, and Simon has read 75 pages. Together, they have read a total of 200 pages. Choose the equation that matches the given situation.

a. $75 = 200 + r$ b. $r + 75 = 200$

c. $75 - r = 200$ d. $200 - 75 - r$

16. Four more than a certain number is 12. The number is

a. 4 b. 8

c. 12 d. 6

17. Which of the following is the correct statement for 'twice of x plus 7 gives 10'?

a. $7x + 2 = 10$ b. $2(x + 7) = 10$

c. $2x + 7 = 10$ d. $2(x - 7) = 10$

18. The sum of two consecutive page numbers in a book is 223. The page numbers are

a. 111,112 b. 124, 110

c. 113, 112 d. 112, 110

19. Which of the following set of linear equations are equivalent?

a. $x + 2 = 9$ and $x + 5 = 6$

b. $x + 2 = 8$ and $11 + x = 17$

c. $x + 8 = -15$ and $x - 6 = -30$

d. $x + 16 = 17$ and $x - 2 = 9$

20. Eleven less than seven times a number is five more than six times the number. The number is

a. –16 b. 18

c. 12 d. 16

SECTION - B : EVERYDAY MATHS

21. Sara's mother is three times as old as Sara and four times as old as Sara's sister, Ann. Ann is three years younger than Sara. How old is Sara, Ann and their mother?

a. 11 years, 8 years, 24 years

b. 12 years, 9 years, 36 years

c. 10 years, 7 years, 49 years

d. 12 years, 9 years, 54 years

22. One day during the vacation at a beach resort, Shella found twice as many sea shells as Anita and Anita found five more shells than Sandy. Together, Sandy and Shella found 16 sea shells. How many did each of them have?

a. Sandy – 2 shells, Anita – 7 shells, Shella – 14 shells

b. Sandy – 7 shells, Anita – 2 shells, Shella – 14 shells

c. Sandy – 14 shells, Anita – 2 shells, Shella – 7 shells

d. Sandy – 14 shells, Anita – 7 shells, Shella – 2 shells

23. In a school, the number of girls is 50 more than the number of boys. The total number of students is 1070. The number of girls is

a. 545 b. 460

c. 560 d. 510

24. Meena says that he has seven marbles more than five times the marbles Sheena has. Meena has 39 marbles. How many marbles does Sheena have?

a. 4 b. 5

c. 6 d. 7

25. A boy has some 25 paise and 50 paise coins. The total value of the coins he has is ₹30. If the number of 25 paise coins is four times that of 50 paise coins, then the number of each type of coins is

a. 15 25-paise coins, 60 50-paise coins

b. 80 25-paise coins, 20 50-paise coins

c. 30 25-paise coins, 50 50-paise coins

d. 50 25-paise coins, 30 50-paise coins

SECTION - C : BRAINBOX

26. Which of the following is the correct match?

	Column I		Column II
1.	$x + 5 = 9$	i.	$\frac{5}{3}$
2.	$x - 7 = 4$	ii.	-60
3.	$\frac{x}{12} = -5$	iii.	6
4.	$5x = 30$	iv.	11
5.	The value of y which satisfies $3y = 5$	v.	4

a. 1 → iii, 2 → v, 3 → iv, 4 → ii, 5 → i
b. 1 → v, 2 → iv, 3 → ii, 4 → iii, 5 → i
c. 1 → i, 2 → ii, 3 → iii, 4 → iv, 5 → v
d. 1 → v, 2 → iii, 3 → iv, 4 → ii, 5 → i

27. What does a duck do when it flies upside down? The answer to this riddle is hidden in the equations given below.

$i + 69 = 70$;
$8u - 6u = 8$;
$4a = -5 + 25$;
$4q + 5 = 17$;
$-5t - 60 = -70$;
$s + 92 = 100$;
$p + 15 = 24$;
$3c = c + 12$;
$3(k + 1) = 24$;

For the answer to the riddle, substitute the letters for the given value and choose the correct answer.

1	2	/	3	4	5	6	7	8	/	4	9

a. It croaks up
b. It quacks up
c. It trumpet up
d. It scream up

28. A tap can fill up a tank in 7 hours. Another tap can empty it in 14 hours. How long will it take to fill $\frac{6}{7}$ of the tank, if both taps are left on?

a. 7 hrs
b. 13 hrs
c. 12 hrs
d. None of these

29. Choose the correct option. The length of a rectangle is two times its breadth. Its perimeter is 60 cm.

i. If breadth of rectangle is x cm, the length of rectangle is _____ cm.
ii. The equation formed is _____.
iii. The solution of the equation is _____.
iv. The measures of length and breadth are _____ cm and _____ cm.

a. $2x$; $2(2x + x) = 60$; $x = 10$; 20, 10
b. 60; $2(2x + x) = 60$; $2x$; 10; 20
c. $2(2x + x) = 60$, 60; $2x$; 10; 20
d. $4x$; $2(3x) = 60$; $x = 40$; 40; 20

30. If $a + b = 29$, $b + c = 45$, $a + c = 44$, then the value of $a + b + c$ is

a. 95
b. 81
c. 59
d. 58

Darken your choice with HB pencil

1. (a) (b) (c) (d)	9. (a) (b) (c) (d)	17. (a) (b) (c) (d)	25. (a) (b) (c) (d)
2. (a) (b) (c) (d)	10. (a) (b) (c) (d)	18. (a) (b) (c) (d)	26. (a) (b) (c) (d)
3. (a) (b) (c) (d)	11. (a) (b) (c) (d)	19. (a) (b) (c) (d)	27. (a) (b) (c) (d)
4. (a) (b) (c) (d)	12. (a) (b) (c) (d)	20. (a) (b) (c) (d)	28. (a) (b) (c) (d)
5. (a) (b) (c) (d)	13. (a) (b) (c) (d)	21. (a) (b) (c) (d)	29. (a) (b) (c) (d)
6. (a) (b) (c) (d)	14. (a) (b) (c) (d)	22. (a) (b) (c) (d)	30. (a) (b) (c) (d)
7. (a) (b) (c) (d)	15. (a) (b) (c) (d)	23. (a) (b) (c) (d)	
8. (a) (b) (c) (d)	16. (a) (b) (c) (d)	24. (a) (b) (c) (d)	

Chapter 7

Comparing Quantities

SECTION - A : MATHEMATICAL REASONING

1. 180% of ₹200 is

a. ₹300 b. ₹360
c. ₹390 d. ₹400

2. The difference between the marked price and the sale price is called the

a. cost price b. overhead price
c. discount d. profit

3. The formula to calculate the rate of interest is

a. $R = \frac{SI \times 100}{P \times T}$ b. $R = \frac{P \times 100}{SI \times T}$
c. $R = \frac{T \times 100}{P \times SI}$ d. $R = \frac{100}{P \times T \times SI}$

4. Half of 2%, when written in decimal form is

a. 0.01 b. 0.02
c. 0.05 d. 0.5

5. A train 180 m long is running at a speed of 108 km/h. The time taken by train to cross an electric pole is

a. 4 sec b. 6 sec
c. 8 sec d. 10 sec

6. Out of 120 students, 80% students passed the maths test. How many students did not pass the test?

a. 20 b. 22
c. 24 d. 26

7. On selling 17 notebooks at ₹720, there is a loss which is equal to the cost price of 5 notebooks. The C.P. of each notebook is

a. ₹52.5 b. ₹58
c. ₹60 d. ₹75

8. If A : B = 3 : 4 and B : C = 8 : 9, then A : C is

a. 1 : 8 b. 2 : 5
c. 1 : 4 d. 2 : 3

9. Madam Zahira sold 40% of the cookies she made in the morning. She sold 120 cookies in the afternoon and 20% of the remainder in the following day. She still had 240 cookies left. How many cookies did she make?

a. 600 b. 700
c. 720 d. 800

10. Liza saves 25% of her pocket money each week. If she increases her spending by ₹9, then her savings would drop by 60%. How much pocket money does Liza receive in four weeks?

a. ₹60 b. ₹90
c. ₹240 d. ₹296

11. The numbers $5x - 8$, 7, $7x - 8$ and 13 are in proportion. The value of x is

a. 3 b. 4
c. 6 d. 10

12. The weight of 154 identical bags is 462 kg. The weight of 80 such bags is

a. 262 kg b. 240 kg
c. 340 kg d. 140 kg

13. If seventeen stamps cost ₹59.50, then _____ stamps can be bought for ₹192.50.

a. 4 b. 45
c. 50 d. 55

14. The average of 6, 8, 10, 13, 16 and 19 is

a. 10 b. 13
c. 12 d. 14

15. A boat can travel 6 km/h with the stream and 3 km/h against the stream. How long will it take to cover 36 km in still water?

a. 6 hrs b. 8 hrs
c. 10 hrs d. 12 hrs

16. A number decreased by 7% of itself is 16.74. The number is

a. 28 b. 8
c. 18 d. 14

17. A number increased by 10% of itself is 352. The number is

a. 320 b. 350
c. 362 d. 302

18. Rahul scored 35, 43, 29 and 45 marks in four subjects. What is his average score?

a. 28 b. 92
c. 48 d. 38

19. 45 km/h = _____ m/s.

a. 14 m/s b. 12.5 m/s
c. 45 m/s d. 15.5 m/s

20. By selling a book for ₹250, a publisher gains 20%. For how much should he sell the book to gain 30%?

a. ₹270.80 b. ₹789
c. ₹215.50 d. ₹370.50

SECTION - B : EVERYDAY MATHS

21. There are 900 people at a function. 55% of them are men, 30% are women and the rest are children. How many more men are there than children?

a. 360
b. 350
c. 370
d. 380

22. The ratio of the marks scored by Ayush and Amrita is 5 : 6. If Amrita scored 78 marks. How much did Ayush score?

a. 56 b. 65
c. 45 d. 54

23. A number is first increased by 25% and then decreased by 25%. The net increase or decrease per cent is

a. 6.25% decrease
b. 6.25% increase
c. 5.25% decrease
d. 5.25% increase

24. How long will it take for ₹2500 to become ₹3000 at 5% per annum simple interest?

a. 3 years
b. 4 years
c. 5 years
d. 2 years

25. Mr Tarun paid ₹1612.49 for a set of headphones inclusive of 7% VAT. What was the price of the set of headphones before VAT?

a. ₹1507
b. ₹1570
c. ₹1057
d. ₹1510

SECTION - C : BRAINBOX

26. A boy buys oranges at 4 for ₹3 and sells them at 5 for ₹4. What percentage of loss or gain does he make?

a. Gain of $6\frac{2}{3}\%$ b. Loss of $6\frac{2}{3}\%$

c. Gain of $15\frac{2}{3}\%$ d. Loss of $15\frac{4}{3}\%$

27. Anita's salary was 80% of Rita's salary. Emily's salary was 75% of Rita's salary. Emily's salary further increased to 75% of Anita's salary. The increase in Emily's salary as a fraction of her original salary is

a. $\frac{1}{2}$ b. $\frac{1}{3}$

c. $\frac{1}{5}$ d. $\frac{1}{4}$

28. Rocky and Karan had a total of 406 comics. After each of them had bought 116 more comics, the number of comics Rocky had was 75% more than the number of comics that Karan had. How many comics did Karan have originally?

a. 116 b. 114

c. 118 d. 120

29. 84% of Ryan's number of stamps is equal to 75% of Aryan's number of stamps. If Aryan has 375 more stamps than Ryan, then how many stamps does Ryan have?

a. 3025

b. 3215

c. 3105

d. 3125

30. A shopkeeper bought 150 watches. He sold 40% of them at 20% above the cost price. He, later, sold 50% of the remainder at the cost price and the remaining watches at 10% below the cost price. Overall, he made a profit of ₹150 from the sale of the watches. The cost price of each watch is

a. ₹10

b. ₹15

c. ₹20

d. ₹30

Darken your choice with HB pencil

1.	a	b	c	d	9.	a	b	c	d	17.	a	b	c	d	25.	a	b	c	d
2.	a	b	c	d	10.	a	b	c	d	18.	a	b	c	d	26.	a	b	c	d
3.	a	b	c	d	11.	a	b	c	d	19.	a	b	c	d	27.	a	b	c	d
4.	a	b	c	d	12.	a	b	c	d	20.	a	b	c	d	28.	a	b	c	d
5.	a	b	c	d	13.	a	b	c	d	21.	a	b	c	d	29.	a	b	c	d
6.	a	b	c	d	14.	a	b	c	d	22.	a	b	c	d	30.	a	b	c	d
7.	a	b	c	d	15.	a	b	c	d	23.	a	b	c	d					
8.	a	b	c	d	16.	a	b	c	d	24.	a	b	c	d					

Chapter

8

Lines and Angles

SECTION - A : MATHEMATICAL REASONING

1. The angle which is equal to its supplement is

a. 45° b. 180°

c. 90° d. 60°

2. In which of the following cases will the pair of adjacent angles form a linear pair?

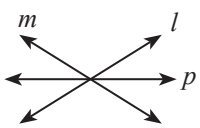
a. When both the angles are acute angles

b. When both the angles are obtuse angles

c. When both the angles are reflex angles

d. When one angle is an acute angle and the other is an obtuse angle

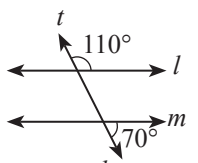
3. Is line *p* a transversal to lines *m* and *l*?

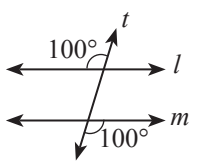


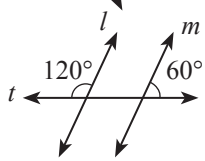
a. Yes b. No

c. May be d. Can't say

4. In which of the following figures *l* || *m* ?

a. 

b. 

c. 

d. All of these

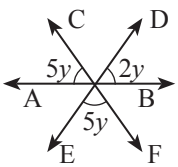
5. What is the value of *y*?

a. $y = 15°$

b. $y = 20°$

c. $y = 25°$

d. $y = 30°$



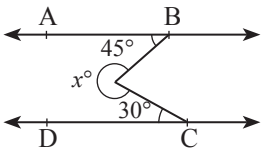
6. In the given figure, AB || CD. The value of *x* is

a. 200°

b. 250°

c. 280°

d. 285°



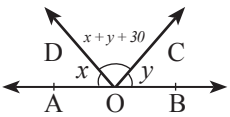
7. It is given that OA and OB are opposite rays in the given figure. If $x = 25°$, then what is the value of *y*?

a. 50°

b. 60°

c. 70°

d. 80°



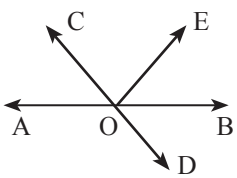
8. In the given figure, lines AB and CD intersect at O. If ∠AOC + ∠BOE = 120°, ∠BOD = 70°, then m∠COE is

a. 50°

b. 40°

c. 65°

d. 60°



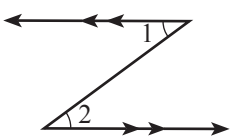
9. In the given figure, ∠1 is _____ to/of ∠2.

a. adjacent

b. an alternate angle

c. a supplement

d. a complement



10. The pair of interior angles on the same side of the transversal is known as

a. complementary angles

b. alternate angles

c. corresponding angles

d. co-interior angles

11. If $(3a+5)°$ and $(2a-25)°$ are supplementary angles, then the measure of the smaller angle is

a. 30° b. 55°
c. 80° d. 85°

12. Three angles at a point are in the ratio 1 : 2 : 3. What is the measure of the smallest angle?

a. 30° b. 60°
c. 90° d. 120°

13. The linear pair angles are also called

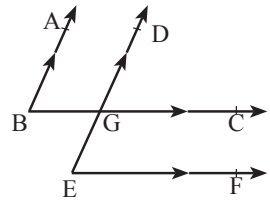
a. complementary angles
b. supplementary angles
c. adjacent angles
d. vertically opposite angles

14. The lines that meet or cross each other at a common point are called

a. parallel lines
b. intersecting lines
c. perpendicular lines
d. none of these

15. In the given figure, BC || EF. If $\angle ABC = 80°$, then the $m\angle DEF$ is

a. 80°
b. 100°
c. 60°
d. 70°



16. How many points of intersection can a pair of intersecting lines have?

a. Zero b. Two
c. Four d. One

17. How many right angles are there in a complete angle?

a. Four b. Eight
c. Two d. Six

18. A _____ has an initial but no end point.

a. line b. ray
c. line segment d. plane

19. An angle is named by its

a. arms b. lines
c. vertex d. magnitude

20. An angle is $\frac{2}{3}$ of its complement. What is the measure of the angle?

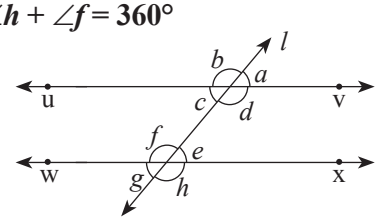
a. 63° b. 54°
c. 90° d. 36°

SECTION - B : EVERYDAY MATHS

21. Read the statements given below.
Statement 1: If two lines intersect, then the vertically opposite angles are equal.
Statement 2: The sum of all the angles around a point is 180°.
Which of the following is the correct option?

a. Both statement 1 and statement 2 are true.
b. Both statement 1 and statement 2 are false.
c. Statement 1 is false but statement 2 is true.
d. Statement 1 is true but statement 2 is false.

22. Read the following statements.
Statement 1: $\angle b$ and $\angle h$, in the given figure, are supplementary angles.
Statement 2: In the given figure, $\angle a + \angle c + \angle h + \angle f = 360°$

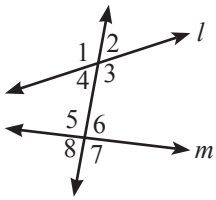


a. Both statement 1 and statement 2 are true.
b. Statement 1 is true but statement 2 is false.

c. Statement 1 is false but statement 2 is true

d. Both statement 1 and statement 2 are false.

23. Which of the following is the correct match?



Column A	Column B
(i) $\angle 4$ and $\angle 6$	(A) alternate exterior angles
(ii) $\angle 3$ and $\angle 6$	(B) same side interior angles
(iii) $\angle 2$ and $\angle 6$	(C) alternate interior angles
(iv) $\angle 2$ and $\angle 8$	(D) corresponding angles

a. i → C, ii → B, iii → D, iv → A

b. i → A, ii → B, iii → C, iv → D

c. i → B, ii → D, iii → A, iv → C

d. i → D, ii → C, iii → A, iv → B

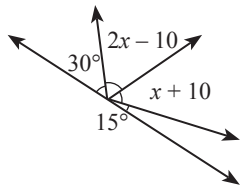
24. In the given figure, the value of *x* is

a. 45°

b. 35°

c. 55°

d. 65°



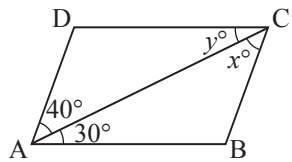
25. If AB || CD and AC || BD, then the value of *x* and *y* is

a. 40°, 30°

b. 35°, 40°

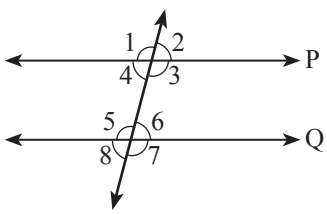
c. 50°, 35°

d. 35°, 45°



SECTION - C : BRAINBOX

26. Observe the given figure and read the following statements.



A. If *p* || *q*, then $\angle 1 = \angle 5$.

B. If $\angle 4 = \angle 6$, then *p* || *q*.

C. If $\angle 4 + \angle 5 = 180°$, then *p* || *q*.

D. If *p* || *q*, then $\angle 2 = \angle 8$.

Which of the following is the correct property for the given statements?

a. Corresponding angles property, converse of alternate interior angles property, converse of co-interior angles property, alternate exterior angles property

b. Converse of alternate interior angles property, alternate exterior angles property, corresponding angles property, converse of co-interior angles property

c. Converse of co-interior angles property, alternate exterior angles property, converse of alternate interior angles property, corresponding angles property

d. Alternate exterior angles property, converse of alternate interior angles property, converse of co-interior angles property, corresponding angles property

27. Read the given statements.

When two parallel lines are intersected by a transversal at two distinct points, then

1. the transversal form a total of _____ angles with two lines.

2. the corresponding angles on the same side of the transversal are _____.

3. _____ pair of alternate angles are formed.

4. the vertically opposite angles are _____ to each other.

Which of the following will complete the given statements?

a. Equal, equal, four, four

b. Four, four, equal, equal

c. Eight, equal, four, equal

d. five, equal, six, equal

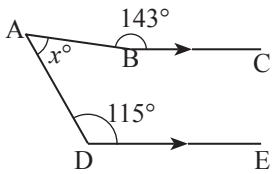
28. The measure of x is

a. 38°

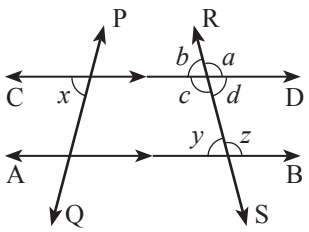
b. 28°

c. 65°

d. 92°



29. In the given figure, AB || CD.



Choose one pair of corresponding angles; one pair of alternate angles and one pair of co-interior angles.

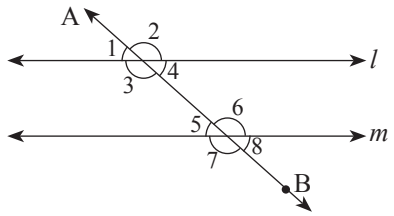
a. $\angle a$ and $\angle z$, $\angle c$ and $\angle z$, $\angle b$ and $\angle y$

b. $\angle a$ and $\angle z$, $\angle c$ and $\angle z$, $\angle c$ and $\angle y$

c. $\angle d$ and $\angle y$, $\angle b$ and $\angle y$, $\angle d$ and $\angle z$

d. $\angle d$ and $\angle z$, $\angle c$ and $\angle y$, $\angle c$ and $\angle z$

30. Mohit got an assignment where he had to explain the types of angles formed by a pair of parallel lines.



He completed the assignment but when his teacher checked, he saw mistakes. Which one of the following is correct?

	Type of Angle	Observations
(i)	Corresponding angles	$\angle 1 = \angle 5$, $\angle 3 = \angle 7$ $\angle 2 = \angle 6$, $\angle 4 = \angle 8$
(ii)	Alternate opposite angles	$\angle 3 = \angle 6$, $\angle 4 = \angle 5$
(iii)	Vertically opposite angles	$\angle 1 = \angle 4$, $\angle 5 = \angle 6$
(iv)	Alternate exterior angles	$\angle 1 = \angle 8$, $\angle 2 = \angle 5$

a. Only (i)

b. Only (ii)

c. (iii) and (iv)

d. (i) and (iii)

Darken your choice with HB pencil

1.	a b c d	9.	a b c d	17.	a b c d	25.	a b c d
2.	a b c d	10.	a b c d	18.	a b c d	26.	a b c d
3.	a b c d	11.	a b c d	19.	a b c d	27.	a b c d
4.	a b c d	12.	a b c d	20.	a b c d	28.	a b c d
5.	a b c d	13.	a b c d	21.	a b c d	29.	a b c d
6.	a b c d	14.	a b c d	22.	a b c d	30.	a b c d
7.	a b c d	15.	a b c d	23.	a b c d		
8.	a b c d	16.	a b c d	24.	a b c d		

Chapter 9

Triangle and its Properties

SECTION - A : MATHEMATICAL REASONING

1. In ΔABC, $AB = AC$ and $\angle B = 50°$, then $\angle C$ is equal to

a. 30° b. 40°
c. 50° d. 60°

2. If ΔABC is a right-angled triangle at $\angle C$, then

a. $AB = AC$ b. $AB \perp AC$
c. $AC \perp AB$ d. $BC \perp AC$

3. In ΔPQR, if $\angle P = 60°$ and $\angle Q = 30°$, then the exterior angle formed by producing QR is equal to

a. 40° b. 60°
c. 90° d. 120°

4. In ΔPQR, if $\angle P = \angle R$ and QR = 6 cm and PR = 5 cm, then the length of PQ is

a. 2 cm b. 3 cm
c. 5 cm d. 6 cm

5. The point of intersection of altitudes of a triangle is called its

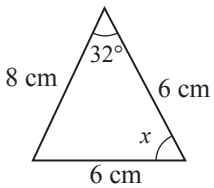
a. ortho centre b. incentre
c. centroid d. median

6. If one angle of a triangle is equal to the sum of the other two angles, then the triangle is a/an

a. equilateral triangle
b. isosceles triangle
c. right-angled triangle
d. acute-angled triangle

7. In the given figure, the m$\angle x$ is

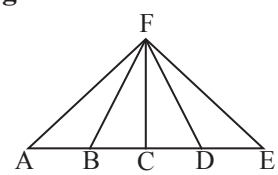
a. 86°
b. 84°
c. 116°
d. 54°



8. If the measure of three interior angles of a ΔQPR are $\angle Q = 75°$, $\angle R = 50°$ and $\angle P = 55°$, then the m$\angle P$ is

a. 120° b. 105°
c. 125° d. 130°

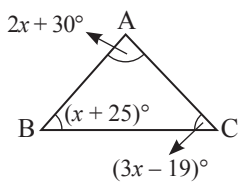
9. How many triangles are there in the given figure?



a. 4 b. 5
c. 8 d. 10

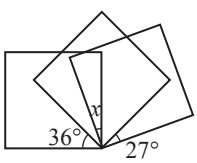
10. The value of each angle of ΔABC is

a. 39°, 63°, 78°
b. 78°, 49°, 53°
c. 63°, 39°, 78°
d. 39°, 39°, 63°



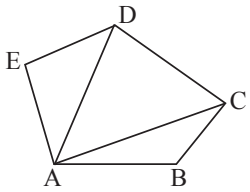
11. The given figure shows three identical squares. The value of x is

a. 30°
b. 27°
c. 36°
d. 16°



12. In the given figure, the value of $\angle EAB + \angle ABC + \angle BCD + \angle CDE + \angle DEA$ is

a. 740°
b. 540°
c. 1020°
d. 360°

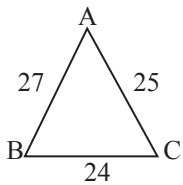


13. Which of the following statements is false for an acute-angled triangle?

a. Each angle is equal to 60°.
b. One angle is obtuse angle.
c. Each angle is less than 90°.
d. Two angles are acute angle.

14. Which is the smallest angle of the given triangle?

a. $\angle C$
b. $\angle B$
c. $\angle A$
d. Cannot be determined



15. For a ΔABC, which of the following given conditions holds true?

a. $AB - BC > CA$ b. $AB + BC < CA$
c. $AB - BC < CA$ d. $AB + CA < BC$

16. The sum of interior angles of a triangle is

a. 90° b. 180°
c. 45° d. 100°

17. The ratio of two of the three interior angles of a triangle is 3 : 2 and their opposite exterior angle is 150°. What is the measure of each interior angle?

a. 90°, 60°, 30° b. 80°, 60°, 40°
c. 90°, 20°, 90° d. 60°, 90°, 80°

18. A picture frame is of dimensions 40 cm by 30 cm. The measure of its diagonal is

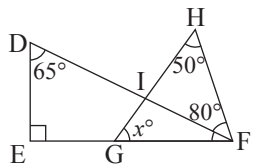
a. 70 cm b. 80 cm
c. 60 cm d. 50 cm

19. If (8, 15, k) is a Pythagorean triplet then the value of k is

a. 16 b. 17
c. 14 d. 12

20. The value of x is

a 180°
b. 80°
c. 50°
d. 60°



SECTION - B : EVERYDAY MATHS

21. Which of the following can be the sides of a triangle?

a. 4, 6, 12 b. 5, 3, 2
c. 4, 6, 2 d. 6, 8, 10

22. The floor delivery truck is 68 cm above the ground. The ramp attached to the back of the truck touches the ground at a point P, which is 51 cm away from the truck. What is the length of the ramp?

a. 85 cm b. 75 cm
c. 65 cm d. 45 cm

23. A man goes 10 m due East and then 24 m due North. How far is he from the starting point?

a. 26 m b. 25 m
c. 24 m d. 16 m

24. Mr Rajan wants to build a house on a rectangular plot of land. The area of the field whose one side is 48 m and its diagonal is 50 m is

a. 576 m^2 b. 672 m^2
c. 625 m^2 d. 343m^2

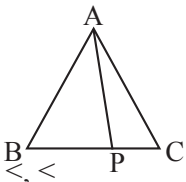
25. Rahul wants to plant the flowers in a garden in the form of a rhombus. The diagonal of the rhombus measures 12 cm and 5 cm. The area of garden is

a. 30 cm^2 b. 60 cm^2
c. 40 cm^2 d. 80 cm^2

SECTION - C : BRAINBOX

26. In the given figure, the point P is on the side BC. Which of the following statements can be completed using the symbols = , > or < so as to make them true?

i. AP _____ AB + BP
ii. AP _____ AC + PC
iii. AP _____ AB + AC



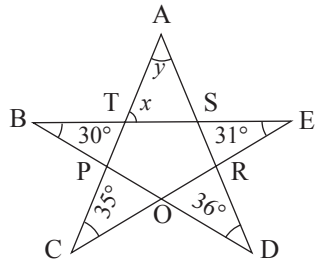
a. <, >, = b. <, <, <
c. >, >, = d. <, =, >

27. Which of the following is the correct option?

i. The number of medians in a ____ is three.
ii. The centroid always lies ____ the triangle.
iii. An altitude in a triangle forms a _____ angle with the base of the triangle.
iv. The ____ angle of a triangle equals the sum of the interior opposite angles of the triangle.

a. exterior, right, inside, triangle
b. triangle, inside, right, exterior
c. exterior, inside, right, triangle
d. triangle, outside, right, interior

28. The values of *x* and *y*, respectively are



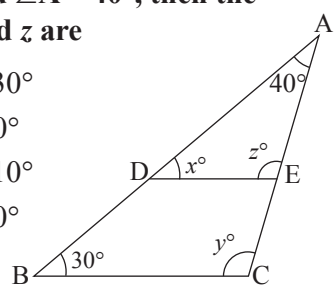
a. 47°, 66° b. 66°, 48°
c. 68°, 47° d. 47°, 68°

29. In ΔABC, ∠A = 100°, ∠B = 30° and ∠C = 50°. The smallest and the largest side of the triangle is

a. AC, BC b. AB, BC
c. BC, CA d. AC, AB

30. The points D and E on the sides AB and AC of a ΔABC, where DE || BC. If ∠B = 30° and ∠A = 40°, then the value of *x*, *y* and *z* are

a. 110°, 110°, 30°
b. 30°, 110°, 70°
c. 30°, 110°, 110°
d. 70°, 110°, 30°



Darken your choice with HB pencil

1.	a	b	c	d	9.	a	b	c	d	17.	a	b	c	d	25.	a	b	c	d
2.	a	b	c	d	10.	a	b	c	d	18.	a	b	c	d	26.	a	b	c	d
3.	a	b	c	d	11.	a	b	c	d	19.	a	b	c	d	27.	a	b	c	d
4.	a	b	c	d	12.	a	b	c	d	20.	a	b	c	d	28.	a	b	c	d
5.	a	b	c	d	13.	a	b	c	d	21.	a	b	c	d	29.	a	b	c	d
6.	a	b	c	d	14.	a	b	c	d	22.	a	b	c	d	30.	a	b	c	d
7.	a	b	c	d	15.	a	b	c	d	23.	a	b	c	d					
8.	a	b	c	d	16.	a	b	c	d	24.	a	b	c	d					

Chapter
10

Congruence of Triangles

SECTION - A : MATHEMATICAL REASONING

1. Which of the following statements is correct?

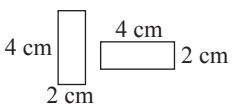
a. Two triangles having the same area are congruent.

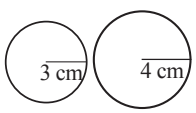
b. If two sides and the angle included between them in a triangle are equal to the corresponding two sides and the included angle of another triangle, then the triangles are congruent.

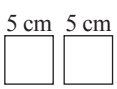
c. If the hypotenuse of one right-angled triangle is equal to the hypotenuse of another right-angled triangle, then the triangles are congruent.

d. All of these

2. Which of the following pair of figures are congruent?

i. 

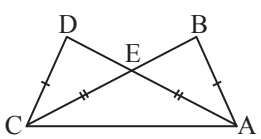
ii. 

iii. 

a. i, ii
b. ii, iii
c. i, iii
d. None of these

3. $\Delta ADC \cong \Delta CBA$ by ____ congruence criterion.

a. SSS
b. AAA
c. SAS
d. ASA

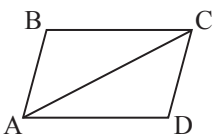


4. In the given figure, AB || DC and AB = DC

i. Is ACD ≅ CAB?

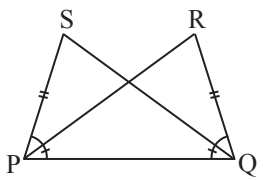
ii. Which angle is equal to ∠CAD?

a. No, ∠DCA
b. Yes, ∠ACB
c. Yes, ∠BAC
d. None of these



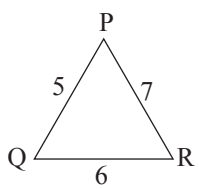
5. By which of the following conditions the following pair of triangles are congruent?

a. SAS
b. AAA
c. SSS
d. AAS



6. If ΔPQR is congruent to ΔSTU, then the length of TU is

a. 5 cm
b. 6 cm
c. 7 cm
d. Cannot be determined



7. If, for ΔABC and ΔDEF, the correspondence CAB ↔ EDF holds true, then which of the following is not true?

a. AC = DE
b. AB = EF
c. ∠A = ∠D
d. ∠C = ∠E

8. If ΔABC and ΔDBC are on the same base BC, AB = DC and AC = DB, then which of the following gives a congruence relationship?

a. $\Delta ABC \cong \Delta DCB$
b. $\Delta ABC \cong \Delta CBD$
c. $\Delta ABC \cong \Delta DBC$
d. $\Delta ABC \cong \Delta BCD$

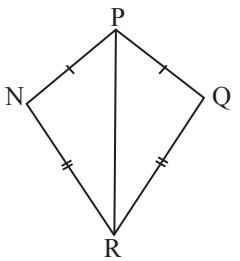
9. The relation of two objects being congruent is called

a. congruence b. similarly
c. equality d. none of these

10. Which angle is included between the sides QR and PR of ΔPQR?

a. ∠R b. ∠Q
c. ∠P d. None of these

Directions (Q11 to Q14): Study the given figure carefully to answer the following questions.



11. The side PN is congruent to

a. PR b. PQ
c. QR d. None of these

12. The side PR is congruent to

a. PR b. PN
c. NR d. PQ

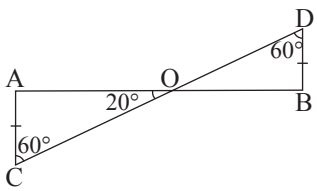
13. The side NR is congruent to

a. QR b. PR
c. NQ d. PQ

14. ΔPNR is congruent to

a. ΔRPQ b. ΔPQR
c. ΔRQP d. None of these

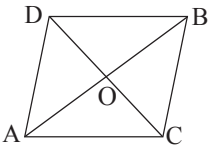
15. If ΔAOC ≅ ΔBOD, then the measure of ∠OBD is



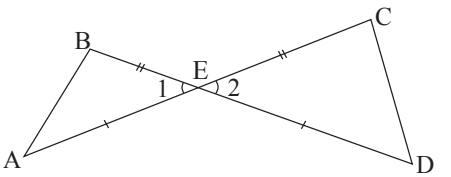
a. 80° b. 50°
c. 100° d. None of these

16. Which of the following are the pair of congruent angles in the given figure?

a. ∠AOC, ∠BOD
b. ∠AOC, ∠AOB
c. ∠AOB, ∠AOD
d. All of these

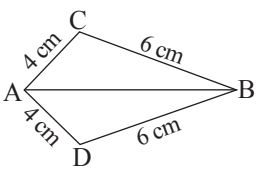


17. Which congruence criterion can be used to conclude ΔAEB ≅ ΔDEC?



a. SSS b. SAS
c. ASA d. None of these

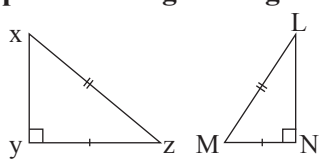
18.



In the given figure, BC = BD and AC = AD, then

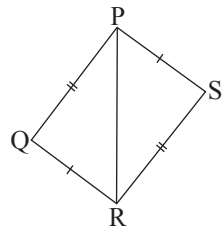
a. ΔACB ≅ ΔADB by SSS
b. ΔACB ≅ ΔADB by SAS
c. ΔABC ≅ ΔADB by SSS
d. All of these

19. By which congruence criterion is the given pair of triangles congruent?



a. RHS
b. ASA
c. SSS
d. None of these

20. In the adjoining figure, PQ = RS and QR = SP. The third pair of corresponding parts that makes ΔPQR ≅ ΔPSR is



a. PR = PQ b. RS = SP

c. PR = PR d. QR = PR

SECTION - C : BRAINBOX

21. Which of the following is the correct match?

	Column A	Column B
i.	Two lines segments are congruent if	a. they have same radii.
ii.	Two angles are congruent if	b. they have same side.
iii.	Two circles are congruent if	c. measure are equal.
iv.	Two rectangles are congruent if	d. they have equal length.
v.	Two square are congruent if	e. dimensions are equal.

a. i → c, ii → d, iii → e, iv → a, v → b

b. i → a, ii → b, iii → c, iv → d, v → e

c. i → e, ii → d, iii → c, iv → b, v → a

d. i → d, ii → c, iii → a, iv → e, v → b

22. Read the following statements.

Statement 1: All squares are congruent.

Statement 2: If two squares have equal areas, they are congruent.

Statement 3: If two rectangles have equal areas, they are congruent.

Statement 4: If two triangles are equal in area, they are congruent.

Which of the statements given above is/are true?

a) Statement 4 only

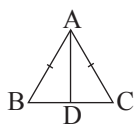
b) Statement 2 only

c) Statement 2 and statement 3

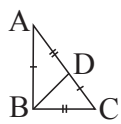
d) Statement 1 and statement 4

23. Which of the following is the correct option?

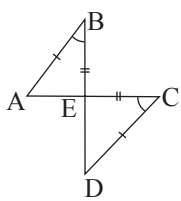
Column I **Column II**

(i) 

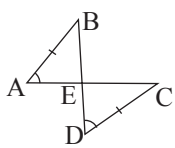
a. ASA congruence

(ii) 

b. RHS congruence

(iii) 

c. SSC congruence

(iv) 

d. SAS congruence

a. i → b, ii → d, iii → a, iv → c

b. i → c, ii → a, iii → b, iv → d

c. i → b, ii → c, iii → d, iv → a

d. i → a, ii → c, iii → b, iv → d

24. Which of the following statements is correct?

a. In an isosceles triangle, the angles opposite to equal sides are equal.

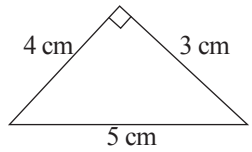
b. The bisector of the vertical angle of an isosceles triangle bisects the base at right angles.

c. If the hypotenuse and one side of a right-angled triangle is equal to the hypotenuse and the corresponding side of another triangle, then the triangles are congruent.

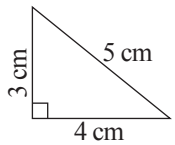
d. All of these

25. Which of the following pair of triangles are congruent by RHS criterion?

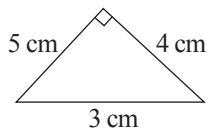
i)



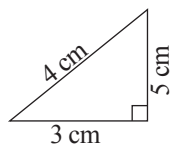
ii)



iii)



iv)



a. (i) and (ii) b. (iii) and (iv)

c. (i) and (iii) d. (ii) and (iv)

Darken your choice with HB pencil

1.	a	b	c	d	8.	a	b	c	d	15.	a	b	c	d	22.	a	b	c	d
2.	a	b	c	d	9.	a	b	c	d	16.	a	b	c	d	23.	a	b	c	d
3.	a	b	c	d	10.	a	b	c	d	17.	a	b	c	d	24.	a	b	c	d
4.	a	b	c	d	11.	a	b	c	d	18.	a	b	c	d	25.	a	b	c	d
5.	a	b	c	d	12.	a	b	c	d	19.	a	b	c	d					
6.	a	b	c	d	13.	a	b	c	d	20.	a	b	c	d					
7.	a	b	c	d	14.	a	b	c	d	21.	a	b	c	d					

Chapter
11

Symmetry

SECTION - A : MATHEMATICAL REASONING

1. The number of lines of symmetry in a circle is

a. 0 b. 2

c. 4 d. More than 4

2. Which of the following letters of the English alphabet does not have the vertical line of symmetry?

a. M b. E

c. V d. H

3. Which of the following letters of the English alphabet does not have any line of symmetry?

a. M b. S

c. K d. H

4. The number of lines of symmetry in a compass is

a. 0 b. 1

c. 2 d. 3

5. The digits having only one line of symmetry is

a. 3 b. 5

c. 8 d. 9

6. What is the order of rotational symmetry of a square?

a. 3 b. 4

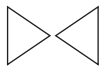
c. 5 d. 6

7. Which of the following has a line of symmetry?

a.  b. 

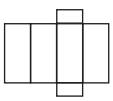
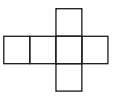
c.  d. 

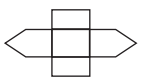
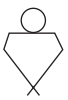
8. Which of the following are reflections of each other?

a.  b. 

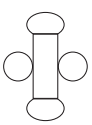
c.  d. 

9. Which of these nets is a net of a cube?

a.  b. 

c.  d. 

10. Which of the following nets is a net of a cylinder?

a.  b. 

c.  d. 

11. Which of the following letters of the English alphabet have more than two lines of symmetry?

a. Z b. O

c. E d. H

12. What is the order of rotational symmetry for letter N?

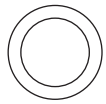
a. 2 b. 4

c. 6 d. 8

13. **What is the mirror image of**  **, when the mirror is placed vertically just before the given image?**

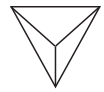
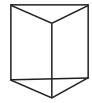
a. 
b. 
c. 
d. 

14. **Which of the following figures have an order of rotation three?**

(i)  **(ii)**  **(iii)** 

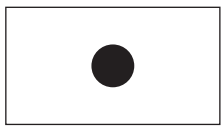
a. i
b. i and ii
c. iii
d. None of these

15. **Which of the following three-dimensional figures have the top side and the front side as the triangles?**

a. 
b. 
c. 
d. 

SECTION - B : EVERYDAY MATHS

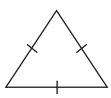
16. **A flag is shown below. How many lines of symmetry does the given flag have?**

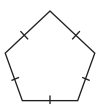


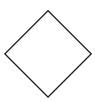
a. 2
b. 4
c. 6
d. 8

17. **Which of the following is the correct match?**

i)  **a) 3**

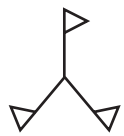
ii)  **b) 2**

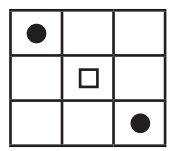
iii)  **c) 4**

iv)  **d) 5**

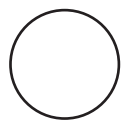
a. i → b, ii → a, iii → d, iv → c
b. i → a, ii → b, iii → c, iv → d
c. i → d, ii → c, iii → b, iv → a
d. i → c, ii → d, iii → a, iv → b

18. **Choose the correct match.**

i)  **a) Infinite order of rotational symmetry**

ii)  **b) Only two lines of symmetry**

iii)  **c) No symmetry**

iv)  **d) Only one line of symmetry**

a. i → c, ii → b, iii → d, iv → a
b. i → b, ii → c, iii → d, iv → a
c. i → c, ii → b, iii → a, iv → d
d. i → b, ii → c, iii → a, iv → d

19. Read the following statements.

Statement 1: A circle has two lines of symmetry.

Statement 2: A regular hexagon has six line of symmetry.

Statement 3: An equilateral triangle has six lines of symmetry.

Which of the following is the correct option?

a Only statement 2 is true.

b. Both statement 1 and statement 3 are true.

c. All statements are true.

d. All statements are false.

20. Look at the table given below. Choose the correct option.

Shape	Centre of Rotation	Order of Rotation	Angle of Rotation
Regular hexagon	_____	_____	_____

a.  , 1, 360°

b.  , Unlimited, Any angle

c.  , 6, 60°

d.  , 2, 180°

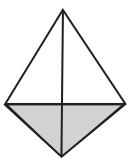
Darken your choice with HB pencil

1. (a) (b) (c) (d)	6. (a) (b) (c) (d)	11. (a) (b) (c) (d)	16. (a) (b) (c) (d)
2. (a) (b) (c) (d)	7. (a) (b) (c) (d)	12. (a) (b) (c) (d)	17. (a) (b) (c) (d)
3. (a) (b) (c) (d)	8. (a) (b) (c) (d)	13. (a) (b) (c) (d)	18. (a) (b) (c) (d)
4. (a) (b) (c) (d)	9. (a) (b) (c) (d)	14. (a) (b) (c) (d)	19. (a) (b) (c) (d)
5. (a) (b) (c) (d)	10. (a) (b) (c) (d)	15. (a) (b) (c) (d)	20. (a) (b) (c) (d)

Chapter
12 Visualising Solid Shapes

SECTION - A : MATHEMATICAL REASONING

1. How many faces does this solid have?

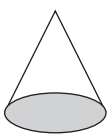


a. 4
b. 6
c. 8
d. 2

2. The base of a square pyramid is in _____ shape.

a. rectangular
b. square
c. triangular
d. circular

3. The base of the given figure is



a. cube
b. cuboid
c. pyramid
d. circle

4. Faces of the cube are in _____ shape.

a. square
b. rectangular
c. triangular
d. circular

5. Choose the false statement from the following.

a. A cuboid has 3 pairs of opposite faces.
b. The number of vertices of cube is 6.
c. All sides of square are equal.
d. Cuboid is three dimensions figure.

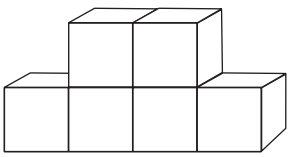
6. A polyhedron has 6 edges and 4 faces. Its number of vertices is

a. 4
b. 7
c. 5
d. 10

7. The odd one out is

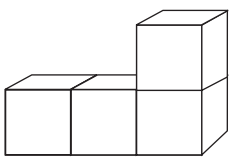
a. Board
b. Duster
c. Chalk
d. Floor

8. In the given figure, how many squares are visible from the front view of the given figure?



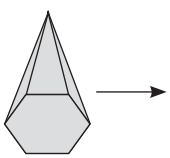
a. 8
b. 6
c. 4
d. 7

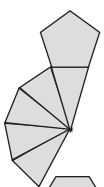
9. The total number of faces in the following solid is

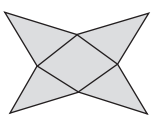


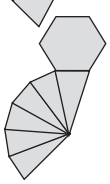
a. 9
b. 10
c. 8
d. 6

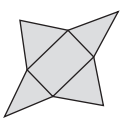
10. Choose the correct net for the figure given below.



a. 

b. 

c. 

d. 

11. Which of the following is a net of a cone?

a. 

b. 

c. 

d. 

12. The number of faces in a square prism is

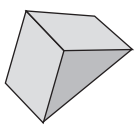
a. 4

b. 6

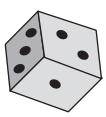
c. 8

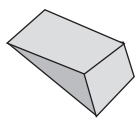
b. None of these

13. Choose the object which has 6 faces, 12 edges and 8 vertices from the following.

a. 

b. 

c. 

d. 

14. Which of the following is not a three-dimensional shape?

a. Square prism

b. Sphere

c. Triangular Pyramid

d. Circle

15. A solid shape that has _____ dimensions is called a 3D shape.

a. 4

b. 3

c. 2

d. None of these

16. _____ shapes are two-dimensional.

a. Planes shapes b. Solid shapes

c. All of these d. None of these

17. Which of the following solid has only one vertex?

a. A pyramid

b. A cube

c. A cone

d. A cylinder

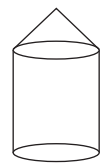
18. How many types of flat faces does this solid have?

a. 1

b. 2

c. 3

d. 4



19. Read the following statements. Which of the following is the correct option?

Statement 1: The corners of a solid shape are called its edges.

Statement 2: The line segments of a solid shape are called its vertices.

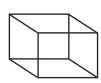
a. Statement 1 is correct.

b. Statement 2 is correct.

c. Statement 1 and Statement 2 both are correct.

d. Both are incorrect.

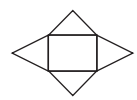
20. Choose the correct match.

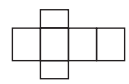
a) 

b) 

c) 

d) 

(i) 

(ii) 

(iii) 

(iv) 

a. a → ii, b → iii, c → iv, d → i

b. a → iv, b → ii, c → iii, d → i

c. a → iii, b → iv, c → ii, d → i

d. a → i, b → iv, c → iii, d → ii

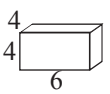
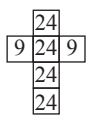
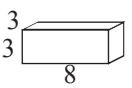
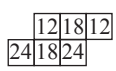
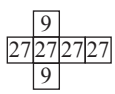
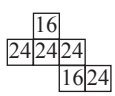
SECTION - B : BRAINBOX

21. Look at the following table. Choose the correct option,

S.No.	Solid	Faces	Edges	Vertices
i.		_____	_____	_____
ii.		_____	_____	_____
iii.		_____	_____	_____

	i	ii	iii
a.	(6, 12, 8)	(4, 6, 4)	(3, 2, 0)
b.	(4, 6, 4)	(6, 12, 8)	(3, 2, 0)
c.	(12, 8, 4)	(6, 8, 2)	(4, 3, 2)
d.	(8, 4, 4)	(6, 4, 8)	(4, 3, 2)

22. Which of the following is the correct match.

Prisms		Net with area of faces	
a)		(i)	
b)		(ii)	
c)		(iii)	
d)		(iv)	

a. a → iv, b → i, c → ii, d → iii

b. a → iii, b → ii, c → iv, d → i

c. a → ii, b → i, c → iv, d → iii

d. a → i, b → iii, c → iv, d → ii

23. Read the following information. What does X, Y and Z represent such that the given information is true?

A <u>X</u> is perfectly straight and extends forever in both directions. A <u>Y</u> is a perfectly flat surface that extends forever in all directions. A <u>Z</u> is the part of a line between two fixed points.

	X	Y	Z
a.	Line	Plane	Ray
b.	Line	Plane	Line segment
c.	Line	Ray	Plane
d.	Ray	Line segment	Plane

24. The number of faces, vertices and edges in a square pyramid are, respectively,

a. 4, 6 and 12 b. 7, 5 and 10

c. 5, 5 and 8 d. 4, 4 and 6

25. A solid having only line segment as its edge is a

a. polyhedron b. cone

c. cylinder d. polygon

26. Which of the following cannot form a polyhedron?

a. 1 square and 4 triangles

b. 2 triangle and 3 rectangles

c. 3 triangles

d. 1 pentagon and 5 triangles

27. Using Euler's formula, the values of P, Q, R and S, respectively, are

Faces	6	5	20	14
Vertices	P	Q	R	S
Edges	12	9	5	36

a. 8, 6, 24, 17 b. 8, 6, 56, 22

c. 6, 8, 24, 54 d. 7, 8, 56, 22

28. Which of the following cannot be true for a polyhedron?

a. Faces = 4, Vertices = 4, Edges = 6

b. Faces = 8, Vertices = 6, Edges = 12

c. Faces = 5, Vertices = 1, Edges = 8

d. Faces = 20, Vertices = 12, Edges = 30

29. The number of edges in a triangular prism is

a. 9

b. 6

c. 5

d. 8

30. Read the following statements.

i. Pentagonal prism has 5 pentagons.

ii. Euler's formula is true for all three dimensional figure.

iii. All cubes are prism.

iv. A polygon with least number of faces is known as a triangular pyramid.

Which of the following is the correct option?

	i)	ii)	iii)	iv)
a.	F	T	T	F
b.	T	T	T	F
c.	F	T	F	T
d.	F	T	T	T

Darken your choice with HB pencil

1.	a	b	c	d	9.	a	b	c	d	17.	a	b	c	d	25.	a	b	c	d
2.	a	b	c	d	10.	a	b	c	d	18.	a	b	c	d	26.	a	b	c	d
3.	a	b	c	d	11.	a	b	c	d	19.	a	b	c	d	27.	a	b	c	d
4.	a	b	c	d	12.	a	b	c	d	20.	a	b	c	d	28.	a	b	c	d
5.	a	b	c	d	13.	a	b	c	d	21.	a	b	c	d	29.	a	b	c	d
6.	a	b	c	d	14.	a	b	c	d	22.	a	b	c	d	30.	a	b	c	d
7.	a	b	c	d	15.	a	b	c	d	23.	a	b	c	d					
8.	a	b	c	d	16.	a	b	c	d	24.	a	b	c	d					

Chapter
13

Perimeter and Area

SECTION - A : MATHEMATICAL REASONING

1. Area of a right-angled triangle is 30 cm². If its base is 5 cm, then its hypotenuse is

a. 11 cm b. 12 cm
c. 13 cm d. 14 cm

2. The height of a triangle is

a. $\frac{2 \times \text{Area}}{\text{Base}}$ b. $\frac{\text{Base}}{2 \times \text{Area}}$
c. $\frac{2 \times \text{Base}}{\text{Area}}$ d. 2 × Area × Base

3. A rectangle's length is $(2x + 1)$ cm and its breadth is $(2x - 1)$ cm. If its area is 15 cm², the value of x is

a. 2 cm b. 3 cm
c. 4 cm d. 5 cm

4. The perimeter of a rectangle whose area is 48 cm² and the length is 8 cm is

a. 20 cm b. 28 cm
c. 36 cm d. 45 cm

5. A wire is in the shape of a square of side 10 cm. If the wire is rebent into a rectangle of length 12 cm, then its breadth is

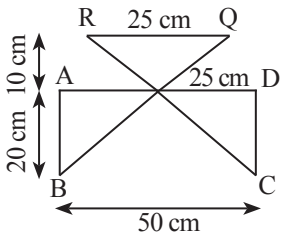
a. 7 cm b. 12 cm
c. 11 cm d. 8 cm

6. Shweta wants to fence a garden in front of her house on three sides having lengths 20 m, 12 m and 12 m. The cost of fencing at the rate of ₹150/m is

a. ₹6600 b. ₹7000
c. ₹8600 d. ₹9000

7. In the given figure, the sum of areas of three triangles is

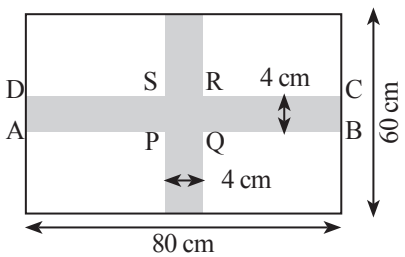
a. 625 cm²
b. 550 cm²
c. 576 cm²
d. 1040 cm²



8. If the difference between the circumference and the radius of a circle is 74 cm, then the radius of the circle is

a. 13 cm b. 14 cm
c. 16 cm d. 18 cm

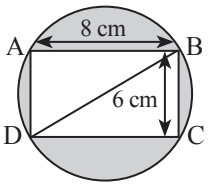
9. The area of the path in the given figure is



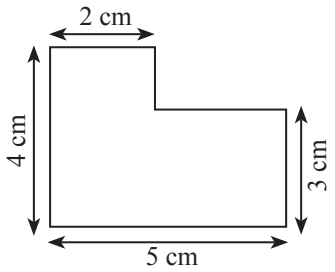
a. 644 m²
b. 544 m²
c. 744 m²
d. 844 m²

10. The area of the shaded region is

a. 30.50 cm²
b. 40.50 cm²
c. 20.50 cm²
d. 22.50 cm²

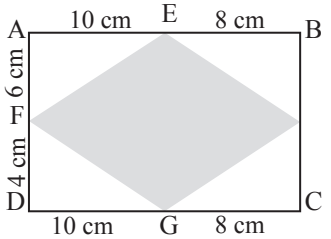


11. The perimeter of the given figure is



a. 11 cm b. 14 cm
c. 18 cm d. 12 cm

12. In the given figure, ABCD is a rectangle. The area of shaded region is

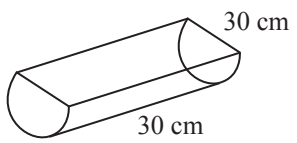


a. 90 cm^2 b. 80 cm^2
c. 106 cm^2 d. 40 cm^2

13. The circumference of the circle inscribed in a square of area 81cm^2 is (Take $\pi = \frac{22}{7}$)

a. $7\frac{2}{7}$ cm b. $14\frac{2}{7}$ cm
c. $28\frac{2}{7}$ cm d. $63\frac{9}{14}$ cm

14. The given figure is half a cylinder. Its total surface area is



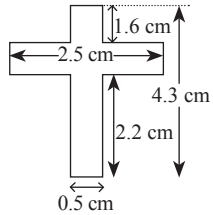
a. 400 cm^2 b. 22314.28 cm^2
c. 3021.42 cm^2 d. 1607.14 cm^2

15. The area of a field in hectares whose length is 240 m and the breadth is 110 m is

a. 2.54 hectares b. 2.64 hectares
c. 2.74 hectares d. 2.84 hectares

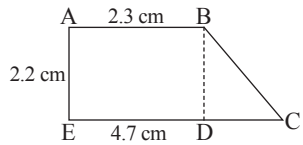
16. The area of the given figure is

a. 2.15 cm^2
b. 3.15 cm^2
c. 3.20 cm^2
d. 2.20 cm^2



17. The area of ABCDE is

a. 7.7 cm^2
b. 8.7 cm^2
c. 9.7 cm^2
d. 6.7 cm^2

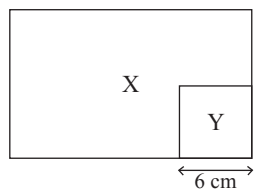


18. If the difference between the perimeter and the side of a square is 45 cm, then the side of the square is

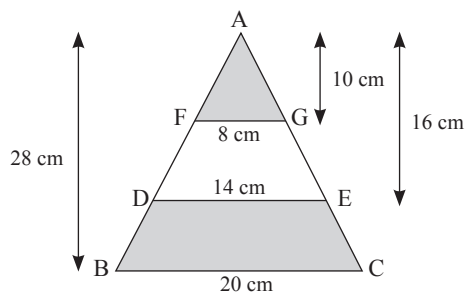
a. 13 cm b. 15 cm
c. 16 cm d. 18 cm

19. The area of square Y is $\frac{2}{17}$ of the area of rectangle X. What is the length of rectangle X if its breadth is 15 cm?

a. 20.2 cm
b. 22.4 cm
c. 20.4 cm
d. 22.2 cm



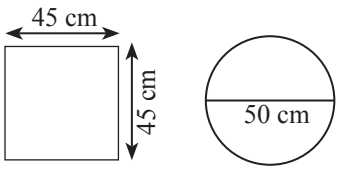
20. The total shaded area of ΔABC is



a. 280 cm^2 b. 448 cm^2
c. 224 cm^2 d. 208 cm^2

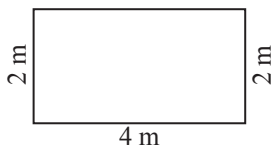
SECTION - B : EVERYDAY MATHS

21. A pizza factory has come out with two shapes of pizza dough. Three square pizza dough of side 45 cm costs ₹150 and two circular pizza dough of diameter 50 cm costs ₹160. Which pizza dough is a better deal?



a. Square pizza
b. Circular pizza
c. Both are equal
d. None of these

22. Anu wants to fence the garden in front of her house, on three sides. The cost of fencing at the rate of ₹150 per metre is



a. ₹1000 b. ₹1200
c. ₹1400 d. ₹1600

23. A corridor of a school is 8 m long and 6 m wide. It is to be covered with canvas sheets. If the available canvas sheets have the dimensions 2 m × 1 m, then the cost of canvas sheets required to cover the corridor at the rate of ₹8 per sheet is

a. ₹100 b. ₹120
c. ₹125 d. ₹192

24. A footpath runs along the boundary of a circular pond. A man walks around it exactly once, keeping close to the edge. If his steps is 66 cm long and he takes exactly 400 steps to go around the pond, then what is the diameter of the pond?

a. 80 m b. 84 m
c. 90 m d. 94 m

25. A paper is in the form of a rectangle ABCD in which AB = 20 cm and BC = 14 cm. A semicircular portion with BC as diameter is cut off from the paper. The area of the remaining part is (Use $\pi = \frac{22}{7}$)

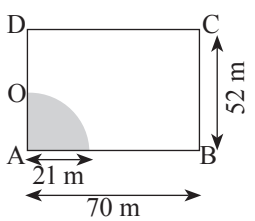
a. 200 cm² b. 202 cm²
c. 201 cm² d. 203 cm²

SECTION - C : BRAINBOX

26. Choose the correct match.

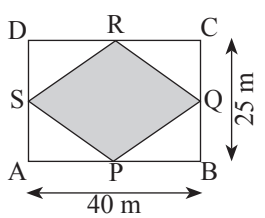
Column I **Column II**

i.



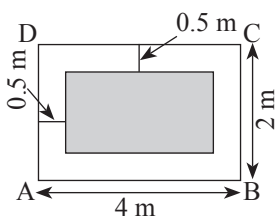
a. 3293.5 m²

ii.



b. 5 m²

iii.



c. 500 m²

a. i → a, ii → c, iii → b
b. i → a, ii → b, iii → c
c. i → c, ii → b, iii → a
d. i → c, ii → a, iii → b

27. Read the following statements.

(i) 2 hectares = 20,000 m².

(ii) The ratio of the circumference of a circle to its diameter is always less than 3.

(iii) 1 cm² = 100 mm².

(iv) The diagonal of a rectangle is $\sqrt{l^2 + b^2}$.

	i	ii	iii	iv
a.	T	T	T	T
b.	T	F	T	F
c.	T	F	T	T
d.	F	F	F	T

28. The length and breadth of a park are in the ratio 2 : 1 and its perimeter is 240 m. A path of 2 m wide runs inside it along the boundary. The (i) area of the path (ii) cost of paving the path at ₹3 per m² is

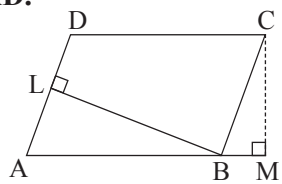
a. 546 m², ₹1292

b. 464 m², ₹1392

c. 646 m², ₹1092

d. 746 m², ₹1492

29. In the given figure, ABCD is a parallelogram in which CM ⊥ AB and BL ⊥ AD.



If AB = 16 cm, AD = 12 cm and CM = 9 cm, then the measure of BL is

a 12 cm b. 10 cm

c. 15 cm d. 20 cm

30. Which of the following options will correctly complete the given formulae?

(i) The base of a triangle is _____.

(ii) The area of a rhombus is _____.

(ii) The base of a parallelogram is _____.

(iv) The area of a circle is _____.

	i	ii	iii	iv
a.	$\frac{1}{2}$ × product of diagonals	$\frac{2A}{h}$	$\frac{A}{h}$	πr^2
b.	$\frac{2A}{h}$	$\frac{A}{h}$	$\frac{1}{2}$ × product of diagonals	πr^2
c.	$\frac{A}{h}$	$\frac{2A}{h}$	$\frac{1}{2}$ × product of diagonals	πr^2
d.	$\frac{2A}{h}$	$\frac{1}{2}$ × product of diagonals	$\frac{A}{h}$	πr^2

Darken your choice with HB pencil

1.	(a) (b) (c) (d)	9.	(a) (b) (c) (d)	17.	(a) (b) (c) (d)	25.	(a) (b) (c) (d)
2.	(a) (b) (c) (d)	10.	(a) (b) (c) (d)	18.	(a) (b) (c) (d)	26.	(a) (b) (c) (d)
3.	(a) (b) (c) (d)	11.	(a) (b) (c) (d)	19.	(a) (b) (c) (d)	27.	(a) (b) (c) (d)
4.	(a) (b) (c) (d)	12.	(a) (b) (c) (d)	20.	(a) (b) (c) (d)	28.	(a) (b) (c) (d)
5.	(a) (b) (c) (d)	13.	(a) (b) (c) (d)	21.	(a) (b) (c) (d)	29.	(a) (b) (c) (d)
6.	(a) (b) (c) (d)	14.	(a) (b) (c) (d)	22.	(a) (b) (c) (d)	30.	(a) (b) (c) (d)
7.	(a) (b) (c) (d)	15.	(a) (b) (c) (d)	23.	(a) (b) (c) (d)		
8.	(a) (b) (c) (d)	16.	(a) (b) (c) (d)	24.	(a) (b) (c) (d)		

Chapter
14

Data Handling

SECTION - A : MATHEMATICAL REASONING

1. In statistics, conducting a survey means

a. drawing graphs and pictures.

b. making mathematical calculations.

c. collecting information from the elements.

d. creating a new data.

2. In a basketball inter-school match, a team scored the following number of goals in their last twenty matches.

3, 0, 1, 5, 4, 3, 2, 6, 4, 2, 3, 3, 0, 7, 1, 1, 2, 3, 4, 3

Which number has the highest frequency?

a. 7 b. 4

c. 3 d. 6

3. The mean of 10, 20, 30, 40 and 50 is

a. 15 b. 25

c. 80 d. 30

4. The difference between the largest and the smallest data value is called the

a. range b. mean

c. arrayed data d. raw data

5. The data given in the form of class intervals is called a _____ data.

a. grouped b. secondary

c. ungrouped d. arranged

6. The range of 12, 5, 7, 22, 13, 18, 25, 20 and 21 is

a. 15 b. 20

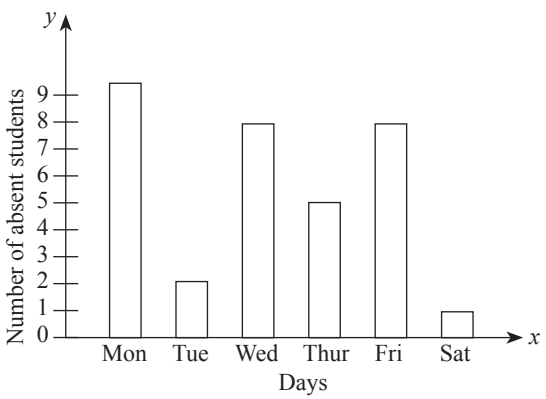
c. 12 d. 25

7. A coin is tossed 100 times in which head is obtained 55 times. On tossing a coin at random, the probability of getting a head is

a. 0.55 b. 0.45

c. 0.35 d. 0.25

Directions (Q8 to Q10): Observe the bar graph given below, which shows the number of students absent in a school during a week.



8. The maximum number of absentees is

a. 8 b. 7

c. 6 d. 9

9. The minimum number of absentees is

a. 2 b. 3

c. 6 d. 1

10. How many students were absent during the week?

a. 20 b. 30

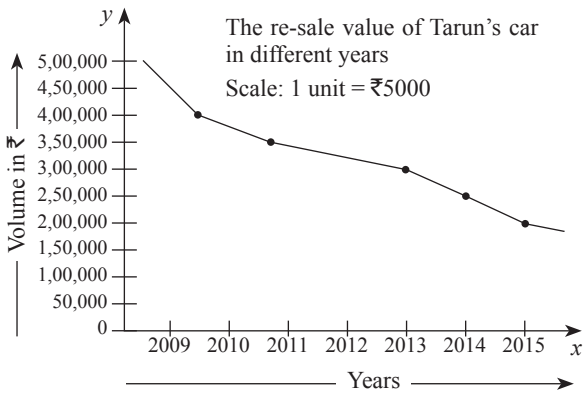
c. 40 d. 33

11. The median of the given data is

24, 36, 46, 17, 18, 25, 35

a. 25 b. 35
c. 20 d. 30

Directions (Q12 to Q15): Tarun bought a new car in 2009 for ₹5,00,000. The resale value of his car changed each year as shown in the graph given below.



12. What is the title of this line graph?

a. The re-sale value of Tarun's car in different years
b. Model 2009 in different years
c. ₹5,00,000 distributed in different years
d. None of these

13. What was the initial cost of the car?

a. ₹5,00,000 b. ₹3,00,000
c. ₹3,00,000 d. ₹1,00,000

14. In which year did the cost of the car reduced to ₹2,50,000?

a. 2009 b. 2010
c. 2012 d. 2013

15. What is the difference between the initial and the final value of the car?

a. ₹3,00,000 b. ₹450,000
c. ₹3,25,000 d. ₹5,00,000

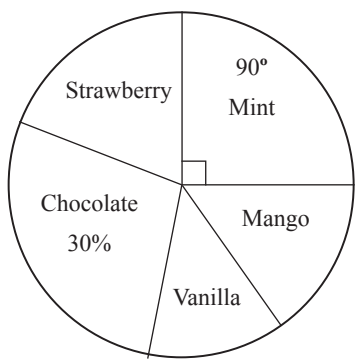
16. The mean of the numbers 8, 13, x, 5, $x + 5$, $2x$, 7, $2x + 5$, 10 and x is 9.5. The value of x is

a. 5 b. 9
c. 8 d. 6

17. Which measure of central tendency will get affected if the extreme observations on both the ends of the data, when arranged in descending order, are removed?

a. Mean and mode
b. Mean and median
c. Mode and median
d. Mean, median and mode

18. Two hundred pupils were asked to choose the flavour of ice cream they like. The pie chart given below represent their choices. How many more pupils like chocolate than mint?



a. 10 b. 5
c. 20 d. 15

19. The central value of the data is called the

a. Mean b. Median
c. Mode d. None of these

20. A data collected or recorded in its original form is called

a. Range b. Graph
c. Raw data d. Frequency

SECTION - B : EVERYDAY MATHS

21. In a survey of 200 girls, it was found that 85 girls like tea while 115 girls dislike it. Out of these girls, one girl is chosen at random. What is the probability that the chosen girl (i) likes tea (ii) dislikes tea.

a. $\frac{23}{40}, \frac{17}{40}$

b. $\frac{17}{40}, \frac{23}{40}$

c. $\frac{115}{40}, \frac{23}{40}$

d. None of these

22. A die is thrown 200 times and the outcomes are noted as shown below.

Outcome	1	2	3	4	5	6
Frequency	35	30	31	28	37	39

If a die is thrown at random, then what is the probability of getting

(i) 1? **(ii) 4?**

(iii) 6? **(iv) an even number?**

	i	**ii**	**iii**	**iv**
a.	$\frac{7}{40}$	$\frac{7}{50}$	$\frac{39}{200}$	$\frac{97}{200}$
b.	$\frac{39}{200}$	$\frac{7}{50}$	$\frac{7}{40}$	$\frac{97}{200}$
c.	$\frac{97}{200}$	$\frac{39}{200}$	$\frac{7}{50}$	$\frac{7}{40}$
d.	$\frac{7}{50}$	$\frac{7}{40}$	$\frac{39}{200}$	$\frac{97}{200}$

23. The probability of a leap year when selected at random will contain 53 Sundays is

a. $\frac{1}{7}$ b. $\frac{2}{7}$

c. $\frac{3}{7}$ d. $\frac{4}{7}$

24. The given figures are related to weekly wages (in ₹) of 15 workers in a factory.

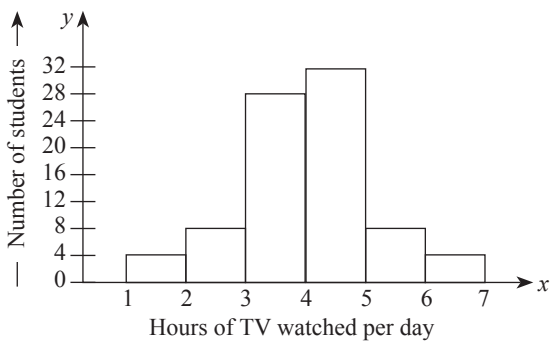
300, 250, 200, 250, 200, 150, 350, 200, 250, 200, 150, 300, 150, 200, 250

How many workers are getting the minimum wages?

a. 3 b. 4

c. 2 d. 1

25. The number of hours a student of a particular class watches television in a day during holidays is shown in the histogram given below.



How many students watch TV for less than 4 hours?

a 14 b. 40

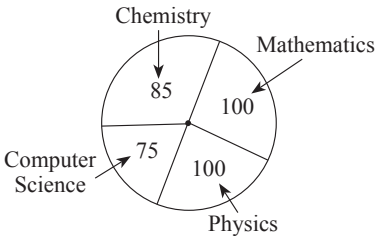
c. 34 d. 25

SECTION - C : BRAINBOX

26. Let x, y and z be three observations. The mean of these observation is

a. $\frac{x \times y \times z}{3}$ b. $\frac{x + y + z}{3}$ c. $\frac{x - y - z}{3}$ d. $\frac{x \times y + 2}{3}$

27. The following pie chart shows the marks scored by Rohit in different subjects. If he scored 80 marks in Mathematics, then what are the



(i) total marks scored by him in all the subjects?

(ii) marks scored in chemistry?

	i	**ii**
a.	200	60
b.	258	68
c.	288	64
d.	288	68

28 Two dice are thrown simultaneously. The probability of a total of at least 10 on two dice together is

a. $\frac{2}{6}$ b. $\frac{1}{6}$

c. $\frac{5}{6}$ d. $\frac{3}{6}$

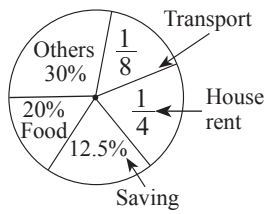
29. The value of *p*, if mean of the following distribution is 7.5 is

X	3	5	7	9	11	13
F(x)	6	8	15	P	8	4

a 3 b. 2

c. 1 d. 2.5

30. The salary of Mr Sharma is ₹30,000. The pie chart shows his expenditure and savings in a certain month. Observe the pie chart and answer the following questions.



(i) What percentage of his salary is spent on transport?

(ii) What fraction of his salary is spent on food?

	i	**ii**
a.	20.5 %	$\frac{2}{5}$
b.	12.5 %	$\frac{1}{5}$
c.	13.5 %	$\frac{3}{5}$
d.	12.5 %	$\frac{4}{5}$

Darken your choice with HB pencil

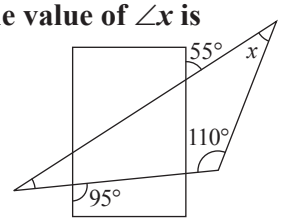
1.	a	b	c	d	9.	a	b	c	d	17.	a	b	c	d	25.	a	b	c	d
2.	a	b	c	d	10.	a	b	c	d	18.	a	b	c	d	26.	a	b	c	d
3.	a	b	c	d	11.	a	b	c	d	19.	a	b	c	d	27.	a	b	c	d
4.	a	b	c	d	12.	a	b	c	d	20.	a	b	c	d	28.	a	b	c	d
5.	a	b	c	d	13.	a	b	c	d	21.	a	b	c	d	29.	a	b	c	d
6.	a	b	c	d	14.	a	b	c	d	22.	a	b	c	d	30.	a	b	c	d
7.	a	b	c	d	15.	a	b	c	d	23.	a	b	c	d					
8.	a	b	c	d	16.	a	b	c	d	24.	a	b	c	d					

Chapter
15
Geometry

SECTION - A : MATHEMATICAL REASONING

1. The figure given below shows a rectangle and a triangle. The value of $\angle x$ is

a. 35°
b. 40°
c. 55°
d. 60°



2. In parallelogram ABCD, X and Y are the mid-points of AB and CD. The ratio of areas of the parallelograms ABCD and XBDY is

a. 2 : 3 b. 3 : 2
c. 1 : 2 d. 2 : 1

3. In ΔABC, P and Q are the mid-points of AB and AC. So, PQCB is a

a. square b. rectangle
c. parallelogram d. none of these

4. PQRS is a square where K, L, M and N are the points on the four sides such that KLMN is also a square. So, the congruent triangles are

a. $\Delta PLK \cong \Delta QLM$ b. $\Delta MRN \cong \Delta KSM$
c. both a and b d. none of these

5. The lengths of a right-angled triangle are x cm, $(x - 1)$ cm and $(x + 1)$ cm. The area of the triangle is

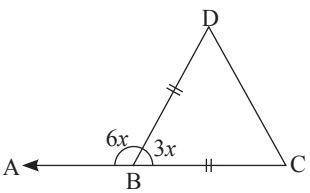
a. 8 cm² b. 10 cm²
c. 6 cm² d. 12 cm²

6. An aeroplane flies 350 km North and then 145 km East. How far is it from the starting point?

a. 378.7 km b. 387.8 km
c. 378.8 km d. 387.7 km

7. Given that, $\angle ABD = 6x$, $\angle DBC = 3x$ and BD = BC. The value of angle $\angle BCD$ is

a. 50°
b. 55°
c. 60°
d. 45°

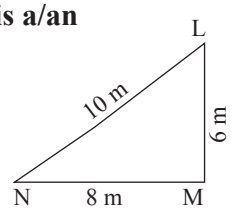


8. Two models *X* and *Y* of a tower are made to scale. The lengths of *X* and *Y* are in the ratio 5 : 4. If the area of a window in model *Y* is 4000 cm², then what is its area in model *X*?

a. 5000 cm² b. 5250 cm²
c. 6250 cm² d. None of these

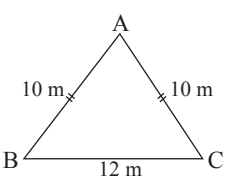
9. In ΔLMN, LM = 6 m, MN = 8 m and LN = 10 m. So, ΔLMN is a/an

a. acute-angled triangle
b. right-angled triangle
c. obtuse-angled triangle
d. none of these

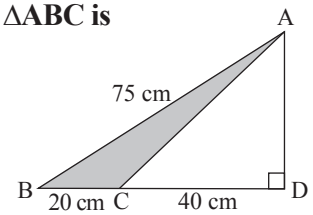


10. In ΔABC, if AB = AC = 10 m and BC = 12 m, then the area of ΔABC is

a. 48 m²
b. 42 m²
c. 36 m²
d. 52 m²



11. In the given figure, AB = 75 cm, BC = 20 cm, CD = 40 cm and ∠ADC = 90°. So, the perimeter of the ΔABC is



a. 156 cm
b. 155.2 cm
c. 145.2 cm
d. 146.4 cm

12. A 6.3 m cable runs from the top of a vertical pole to a point *P* on the ground. *P* is at the same level as the foot of the pole and 3.1 m from it. The height of the pole in metres to decimal place is

a. 6.5 m
b. 6.4 m
c. 5.4 m
d. 5.3 m

13. In ΔABC, ∠A = 48°, and ∠C = 40°. So, ΔABC is a/an

a. obtuse-angled triangle
b. right-angled triangle
c. acute-angled triangle
d. isosceles triangle

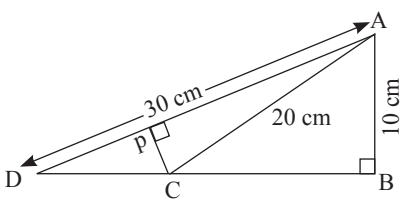
14. Which of the following lengths are the sides of a right triangle?

a. 3.1, 4.2, 4.8
b. 4.3, 4.4, 4.5
c. 2.4, 3.2, 4
d. All of these

15. In triangle ABC, ∠A is obtuse. Which of the following statements is true about the sum of the measures of ∠B and ∠C?

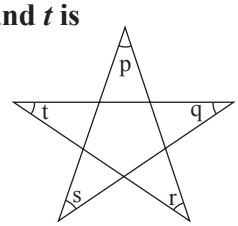
a. ∠B + ∠C = 90°
b. ∠B + ∠C > 90°
c. ∠B + ∠C < 90°
d. ∠B + ∠C = 180°

16. In the given figure, AB = 10 cm, AC = 20 cm, AD = 30 cm, DP = $\frac{1}{3}$AD and ∠ABC = 90°. The length of CP is



a. 3.45 cm
b. 3.50 cm
c. 4.48 cm
d. 3.60 cm

17. In the given figure, the sum of measure of angles *p*, *q*, *r*, *s* and *t* is

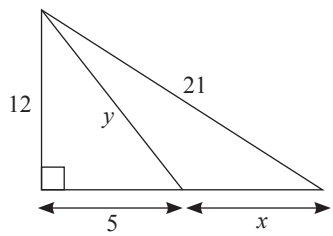


a. 270°
b. 360°
c. 180°
d. 150°

18. Two vertical flags are standing upright 12 m apart. One of them is 3.5 m high and the other is 4 m high. The distance between the top of the two posts is

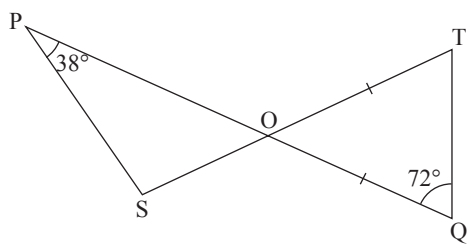
a. 14.0 m
b. 16.0 m
c. 12.0 m
d. 13.0 m

19. The value of *x* and *y* are, approximately, equal to



a. $y = 13.2, x = 12.0$
b. $y = 13.0, x = 12.0$
c. $y = 13.2, x = 12.2$
d. $y = 13.0, x = 12.2$

20. The figure given below shows two straight lines—POQ and SOT. The value of ∠PST is



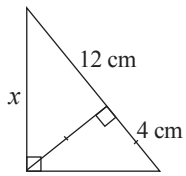
a. 74°
b. 106°
c. 108°
d. 142°

21. The vertex angle of an isosceles triangle measures eight times the measure of a base angle. The measure of a base angle is

a. 18° b. 24°

c. 36° d. 43°

22. From the given figure, the measure of x is



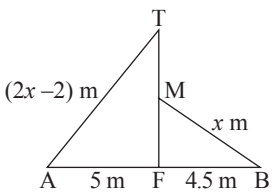
a. 6.9 cm

b. 8.0 cm

c. 14.97 cm

d. 16.0 cm

23. The figure given below shows a vertical flagpole TF supported by two strings attached to the horizontal ground at A and B, each being opposite to F. M is the mid-point of the flagpole. It is given that AF = 5 m, BF = 4.5 m, BM = x and AT = $(2x - 2)$ m. The total length of the strings is



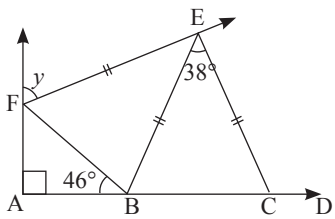
a. 20.5 m

b. 17.5 m

c. 14.5 m

d. 22.5 m

24. In the given figure, ∠BAF = 90°, ∠ABF = 46°, ∠BEC = 38°, and EF = EB = EC. The measure of ∠y is



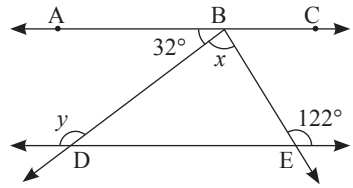
a. 63°

b. 44°

c. 109°

d. 73°

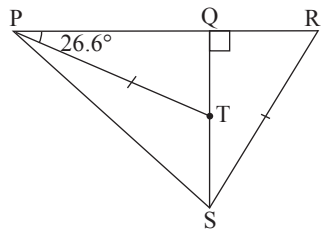
25. If AC || DE, ∠ABD = 32° and ∠E = 122°, then the sum of the measure of angles x and y is



a. 248° b. 238°

c. 294° d. None of these

26. In the figure given below, PQR and QTS are straight lines. T is the mid-point of QS and PQ is twice the length of ST. The ratio of the length of PQ to that of QR is



a. 2 : 1 b. 1 : 2

c. 2 : 3 d. 3 : 1

27. A ladder of length 125 cm leans against a wall and reaches a height of 95 cm. Another ladder of length 315.5 cm leans against the same wall and makes the same angle with the ground as the shorter one. How far can the longer ladder reach up to the wall?

a. 217.5 cm b. 187.5 cm

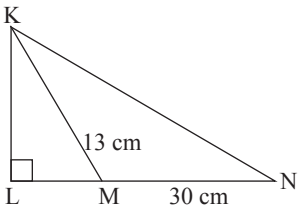
c. 304.8 cm d. 227.5 cm

28. A model of a ship is made using a scale of 1 : 12. If the actual height of the ship is 8 m, then the height of the model ship is

a. 0.777 cm b. 0.667 cm

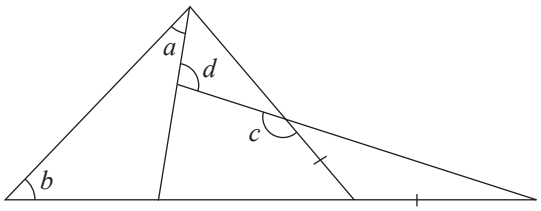
c. 0.665 cm d. 0.676 cm

29. In the figure given below, ΔKLM and ΔKLN are right-angled triangles. Given that, the ratio of the length of LM to that of LN is 1 : 7. So, the length of KN is



a. 27 cm
b. 25 cm
c. 35 cm
d. 37 cm

30. In the figure given below, the measure of angle *a* is equal to



a. $c + d - b + 180°$
b. $c + d - b - 180°$
c. $c - d - b - 180°$
d. $c - d + b - 180°$

Darken your choice with HB pencil

1.	a	b	c	d	9.	a	b	c	d	17.	a	b	c	d	25.	a	b	c	d
2.	a	b	c	d	10.	a	b	c	d	18.	a	b	c	d	26.	a	b	c	d
3.	a	b	c	d	11.	a	b	c	d	19.	a	b	c	d	27.	a	b	c	d
4.	a	b	c	d	12.	a	b	c	d	20.	a	b	c	d	28.	a	b	c	d
5.	a	b	c	d	13.	a	b	c	d	21.	a	b	c	d	29.	a	b	c	d
6.	a	b	c	d	14.	a	b	c	d	22.	a	b	c	d	30.	a	b	c	d
7.	a	b	c	d	15.	a	b	c	d	23.	a	b	c	d					
8.	a	b	c	d	16.	a	b	c	d	24.	a	b	c	d					

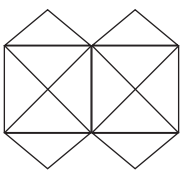
Chapter 16

Logical Reasoning

1. In a certain code, 'when' means '×', 'you' means '÷', come means '–' and 'will' means '+'. What will be the value of 8 when 12 will 16 you 2 come 10?

a. 45 b. 94
c. 96 d. 112

2. How many triangles are there in the given figure?



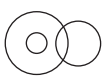
a. 12
b. 22
c. 20
d. 9

3. If 'paper' is called 'wood', 'wood' is called 'straw', 'straw' is called 'grass', 'grass' is called 'rubber' and 'rubber' is called 'cloth', then what is the furniture made up of?

a. paper b. wood
c. straw d. grass

4. Which one of the following illustrates the three classes—sailor, ship and Ocean?

a.  b. 

c.  d. 

5. If 1st and 26th , 2nd and 25th , 3rd and 24th and so on letters of the English alphabet are paired, then which of the following pairs is correct?

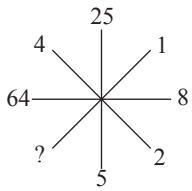
a. GR b. CW
c. IP d. EV

6. What comes next?
az, by, cx, _____

a. ef b. gh
c. ij d. dw

7. Which number will replace the '?' in the given figure?

a. 1
b. 2
c. 3
d. 4

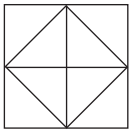


8. Which of the following options most closely resemble the mirror image of the given word, if the mirror is placed vertically to the left?

STROKE

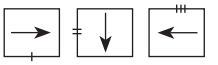
a. ƧTЯOKE b. EKORTS
c. ROKETS d. ƎKOЯTƧ

9. Count the number of triangles in the given figure.



a. 8 b. 10
c. 12 d. 14

10. Which of the following will complete the given series



a.  b. 

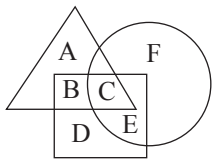
c.  d. 

11. Choose the correct option.
Rectangle : Square :: Ellipse : ?

a. Centre b. Diameter
c. Circle d. Radius

12. In the given figure, the triangle represents girls, the square represents sportspersons and the circle represents coaches. Which position of the given figure represents a girl who is a sportsperson but not a coach?

a. A
b. B
c. C
d. D

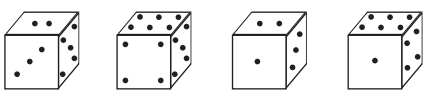


13. Choose the correct alternative.

Giant : Dwarf : : Genius : ?

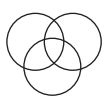
a. Idiot
b. Gentle
c. Wicked
d. Tiny

14. Which number will be on the face opposite to the face with number 3 on it?



a. 1 b. 5
c. 4 d. 6

15. Which of the following venn diagrams represent—a boy, student and a player?

a. 
b. 
c. 
d. 

16. The character of the given matrix follows a certain rule column wise. Choose the missing character from the given options.

5	3	6
2	4	7
1	6	7
30	61	?

a 94 b. 76
c. 73 d. 134

17. The letter S and T of the English alphabet stand for numbers. If S + 50 = T + 100, then which expression is true?

a. S = T b. S > T
c. S – T = 100 d. S < T

18. In a certain language, REMOTE is called ROTEME. Which word will be coded as PNIICC?

a. NPIICC b. IPCCIN
c. PICNCI d. PICNIC

19. Which of the following is the current arrangement of the following words in a meaningful sequence?

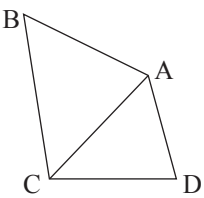
1. CONSULTATION 2. ILLNESS
3. DOCTOR 4. TREATMENT
5. RECOVERY

a. 2, 3, 1, 4, 5 b. 2, 3, 4, 1, 5
c. 4, 3, 1, 2, 5 d. 5, 1, 4, 3, 2

20. If # 5 * is the code for HOT, 768 * is the code for BAAT, then 758 * is the code for

a. COAT b. BOSS
c. BOAT d. BOOT

21. An equilateral ΔACD is rotated anticlockwise around A. At what angle it has been rotated when it covers equilateral ΔABC for the first time?



a. 60° b. 300°
c. 180° d. 240°

22. 2*ab*5 is a four digit number completely divisible by 25. If a number so formed from the two digits in such a way that *ab* is a multiple of 13, then *ab* is

a. 39 b. 45
c. 10 d. 52

23. Which of the following will complete the given number series?

1, 4, 2, 8, 6, 24, 22, 88, ?

a. 352 b. 86
c. 90 d. 154

24. In a certain code, 15789 is written as XTZAL and 2346 as NPSU, then how will 23549 be written using the same code?

a. PNTSL b. NPTSL
c. NBTSL d. NPTUL

25. Which of the following set of numbers follow the rule of the given set of numbers?

8, 18, 37

a. 13, 30, 67 b. 16, 33, 37
c. 5, 12, 25 d. 4, 9, 20

26. If P * Q means P is the brother of Q, Q + R means Q is the son of R, R > S means R is the wife of S and P < S means P is the son of S, then how is R related to P?

a. Aunt b. Grandmother
c. Mother d. Father

27.

4 8 2 4	12 11 13 2	6 13 4 8
24	106	?

Which of the following will complete the given pattern?

a. 48 b. 46
c. 42 d. 40

28. The marks scored by the students A, B, C, D and E in a mathematics test are above 91. The average marks scored by A, B and C is 95; B, C and D is 94. If E's marks is 96 and it ranks the second highest among all; A has the highest marks; B and D have the same score, then how many marks does D score in the mathematics test?

a. 97 b. 54 c. 65 d. 94

29. Many years ago, there were exactly four Thursdays and five Wednesdays in the month of May. On which day of the week was 15th May in that year?

a. Tuesday b. Friday
c. Monday d. Wednesday

30. Some shapes are arranged in a pattern as shown below.

□△□□△△□□□△△□

Which set of shapes is arranged in the same pattern?

a. □△□□△△□□△△
b. □△□□△△□□□△
c. □△□△△△□□△△□□
d. □□△□△△□□△△□

Darken your choice with HB pencil

1.	a b c d	9.	a b c d	17.	a b c d	25.	a b c d
2.	a b c d	10.	a b c d	18.	a b c d	26.	a b c d
3.	a b c d	11.	a b c d	19.	a b c d	27.	a b c d
4.	a b c d	12.	a b c d	20.	a b c d	28.	a b c d
5.	a b c d	13.	a b c d	21.	a b c d	29.	a b c d
6.	a b c d	14.	a b c d	22.	a b c d	30.	a b c d
7.	a b c d	15.	a b c d	23.	a b c d		
8.	a b c d	16.	a b c d	24.	a b c d		

Answers

Chapter 1: Integers

1.	c	2.	d	3.	b	4.	c	5.	a	6.	a	7.	c	8.	b	9.	b	10.	b
11.	c	12.	d	13.	b	14	c	15.	a	16.	a	17.	b	18.	d	19.	a	20.	d
21.	c	22.	a	23.	a	24.	c	25.	d	26.	a	27.	c	28.	a	29.	b	30.	c

Chapter 2: Rational Numbers

1.	b	2.	d	3.	c	4.	c	5.	a	6.	b	7.	c	8.	d	9.	c	10.	c
11.	a	12.	b	13.	c	14	b	15.	c	16.	c	17.	a	18.	d	19.	c	20.	a
21.	c	22.	b	23.	a	24.	c	25.	a	26.	b	27.	a	28.	a	29.	d	30.	d

Chapter 3: Exponents and Powers

1.	b	2.	c	3.	c	4.	c	5.	b	6.	c	7.	a	8.	d	9.	a	10.	c
11.	d	12.	a	13.	b	14	a	15.	c	16.	d	17.	a	18.	b	19.	a	20.	a
21.	a	22.	b	23.	c	24.	c	25.	a	26.	a	27.	b	28.	a	29.	c	30.	c

Chapter 4: Fractions and Decimals

1.	b	2.	c	3.	b	4.	b	5.	a	6.	d	7.	a	8.	d	9.	d	10.	c
11.	a	12.	b	13.	c	14	c	15.	a	16.	c	17.	b	18.	a	19.	c	20.	d
21.	a	22.	b	23.	a	24.	b	25.	a	26.	d	27.	b	28.	a	29.	a	30.	b

Chapter 5: Algebraic Expressions

1.	b	2.	c	3.	d	4.	a	5.	b	6.	c	7.	d	8.	c	9.	d	10.	c
11.	b	12.	b	13.	d	14	a	15.	c	16.	d	17.	b	18.	a	19.	c	20.	d
21.	d	22.	b	23.	d	24.	d	25.	a	26.	a	27.	a	28.	b	29.	a	30.	a

Chapter 6: Simple Linear Equations

1.	c	2.	d	3.	d	4.	b	5.	c	6.	a	7.	a	8.	c	9.	b	10.	b
11.	c	12.	b	13.	b	14	c	15.	b	16.	b	17.	c	18.	a	19.	b	20.	d
21.	b	22.	a	23.	c	24.	c	25.	b	26.	b	27.	b	28.	c	29.	a	30.	b

Chapter 7: Comparing Quantities

1.	b	2.	c	3.	a	4.	a	5.	b	6.	c	7.	c	8.	d	9.	b	10.	c
11.	a	12.	b	13.	d	14	c	15.	b	16.	c	17.	a	18.	d	19.	b	20.	a
21.	a	22.	b	23.	a	24.	b	25.	a	26.	a	27.	c	28.	a	29.	d	30.	c

Chapter 8: Lines and Angles

1.	c	2.	d	3.	b	4.	d	5.	a	6.	d	7.	a	8.	d	9.	b	10.	d
11.	b	12.	b	13.	b	14	b	15.	a	16.	d	17.	a	18.	b	19.	c	20.	d
21.	b	22.	c	23.	a	24.	a	25.	a	26.	a	27.	c	28.	a	29.	b	30.	d

Chapter 9: Triangle and its Properties

1.	c	2.	d	3.	c	4.	d	5.	a	6.	c	7.	c	8.	c	9.	d	10.	b
11.	b	12.	b	13.	c	14	a	15.	c	16.	b	17.	a	18.	d	19.	b	20.	c
21.	d	22.	a	23.	a	24.	b	25.	a	26.	b	27.	b	28.	b	29.	a	30.	c

Chapter 10: Congruence of Triangles

1.	b	2.	c	3.	a	4.	b	5.	a	6.	b	7.	b	8.	c	9.	a	10.	a
11.	c	12.	a	13.	a	14	b	15.	c	16.	a	17.	b	18.	a	19.	a	20.	c
21.	d	22.	a	23.	c	24.	d	25.	a										

Chapter 11: Symmetry

1.	d	2.	b	3.	b	4.	a	5.	a	6.	b	7.	c	8.	a	9.	b	10.	c
11.	b	12.	a	13.	a	14	a	15.	c	16.	a	17.	a	18.	a	19.	a	20.	c

Chapter 12: Visualising Solid Shapes

1.	a	2.	b	3.	d	4.	a	5.	b	6.	a	7.	d	8.	b	9.	c	10.	c
11.	b	12.	b	13.	c	14	d	15.	b	16.	a	17.	c	18.	c	19.	d	20.	a
21.	a	22.	a	23.	b	24.	c	25.	a	26.	c	27.	a	28.	c	29.	a	30.	d

Chapter 13: Perimeter and Area

1.	c	2.	a	3.	a	4.	b	5.	d	6.	a	7.	a	8.	b	9.	b	10.	a
11.	c	12.	b	13.	d	14	c	15.	b	16.	b	17.	a	18.	b	19.	c	20.	d
21.	a	22.	b	23.	d	24.	b	25.	d	26.	a	27.	c	28.	b	29.	a	30.	d

Chapter 14: Data Handling

1.	c	2.	c	3.	d	4.	a	5.	a	6.	b	7.	a	8.	d	9.	d	10.	d
11.	a	12.	a	13.	a	14	d	15.	a	16.	d	17.	b	18.	a	19.	b	20.	c
21.	b	22.	a	23.	b	24.	a	25.	b	26.	b	27.	d	28.	b	29.	a	30.	b

Chapter 15: Geometry

1.	b	2.	d	3.	d	4.	d	5.	c	6.	b	7.	c	8.	a	9.	b	10.	a
11.	b	12.	c	13.	a	14	c	15.	c	16.	c	17.	c	18.	c	19.	d	20.	b
21.	a	22.	c	23.	a	24.	d	25.	b	26.	a	27.	c	28.	b	29.	d	30.	b

Chapter 16: Logical Reasoning

1.	b	2.	b	3.	c	4.	a	5.	d	6.	d	7.	a	8.	d	9.	c	10.	a
11.	c	12.	b	13.	a	14	c	15.	c	16.	d	17.	b	18.	d	19.	a	20.	c
21.	b	22.	d	23.	b	24.	b	25.	c	26.	c	27.	b	28.	d	29.	c	30.	b

My Notes