



# Primrose Schools

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## NATIONAL PRIMTALENT OLYMPIAD EXAMINATIONS MATHEMATICS

**CLASS**  
**6**

Name :

Section :

Roll no :

### Guidelines for the Candidates

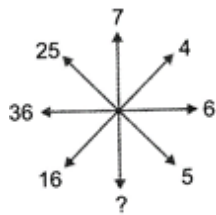
1	Please check your Name, Class and Section on the OMR sheet provided to you.
2	In case, OMR sheet with your name is missing, please fill in information about yourself in the blank sheet provided before start of exam.
3	All questions are compulsory. There is no negative marking. Use of calculator is not permitted.
4	There is only <b>ONE</b> correct answer. Choose only ONE option for an answer.
5	To mark your choice of answers by darkening the circles in OMR sheet, use <b><u>HB Pencil or Blue/Black ball point pen</u></b> only.
6	Rough work should be done in the blank space provided in the booklet.
7	Return the OMR sheet to the invigilator at the end of the exam
8	Please fill in your personal details in space on the top of this page before attempting the paper

## Section A - Logical reasoning :

- 1 Find the next two terms:  
17, 32, 19, 29, 21, 26, 23, \_\_\_\_, \_\_\_\_

(A) 25, 23  
(B) 26, 23  
(C) 23, 25  
(D) 25, 22

- 2 Which number will replace the question mark in the following?



(A) 14  
(B) 49  
(C) 48  
(D) 52

- 3 If 'a' means '+' ; 'b' means '×' ; 'c' means '÷' and 'd' means '-' then what is the value of expression below.

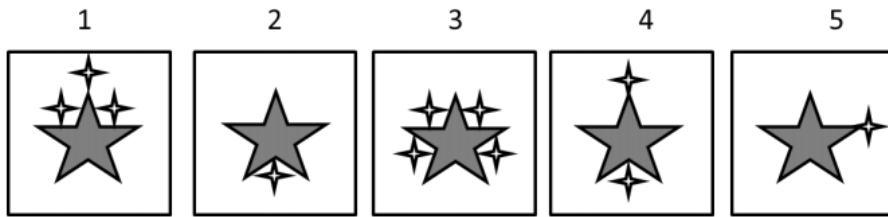
$$6 a 8 b 27 c 9 d 9$$

(A) 12  
(B) 6  
(C) 21  
(D) 0

- 4 In a certain code language 'APPLE' is written as 'FUU Q J'. How will the word 'SIMPLE' be written?

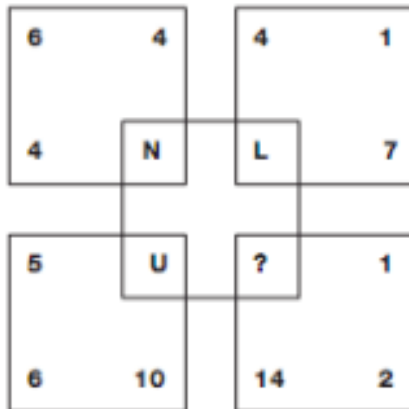
(A) XRQTMF  
(B) XMRVQL  
(C) XNRUQJ  
(D) None of the above

5 Choose the odd one out:



- (A) 1
- (B) 5
- (C) 3
- (D) 4

6 Which letter replaces the question mark?



- (A) Q
- (B) R
- (C) H
- (D) A

7 Arrange the words given below in a meaningful sequence.

1. House 2. Street 3. Room 4. Town 5. District

- (A) 3,2,1,4,5
- (B) 3,1,4,2,5
- (C) 3,1,2,4,5
- (D) 3,1,2,5,4

8 In a certain code language 'GOLD' is written as '5124' and 'LIVE' is written as '2983'. How is 'VOID' written in that code?

- (A) 8194
- (B) 8394
- (C) 8154
- (D) 8793

9 Which of the following ribbons is the longest?



10 Choose the alternative which is closely resembles the mirror image of the figure.



(A)



(B)



(C)



(D)

## Section B - Everyday mathematics

- 11 At a part, Arun intends to hire a cab to help him get around more easily. The given table shows the rate for hiring a cab.

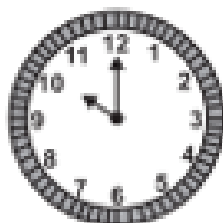
Deposit	Rs. 24
First hour	Rs. 12
Every additional hour and part thereof	Rs.10

Arun intends to hire the cab from 10.30 a.m. to 3.30.p.m. how much does he have to pay up front?

- (A) Rs .66  
(B) Rs .46  
(C) Rs.52  
(D) Rs.76
- 12 Four families went on a picnic. Each family carried a cake for picnic.  $\frac{3}{4}$  of each cake was eaten. How much cake was eaten in all?  
(a)  $\frac{3}{8}$   
(B) 3  
(C)  $\frac{9}{12}$   
(D) 1
- 13 A rectangular garage is 8 metres long and 7 metres wide. It costs ₹131.00 per square metre to put in a new concrete floor. How much would it cost to put a new concrete floor in the garage?  
(A)Rs. 56  
(B)Rs. 1048  
(C)Rs. 5248  
(D)Rs. 7336
- 14 Katrina went to watch a movie . The time at which the movie started and ended are shown on the two clocks given . how long did the movie last?



Starting Time



Ending Time

- (A) 1hr 45 mins
- (B) 2 hrs 45 mins
- (C) 2hrs 15 mins
- (D) 3 hrs

15 95 oranges can be packed in one bag. How many bags will be required to pack 10165 oranges?

- (A) 107
- (B) 106
- (C) 105
- (D) 108

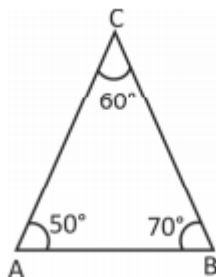
16 The total weight of apple, orange and banana is 56.87kg. If the apple and orange weighs 12.23kg and 9.54kg respectively. Find the weight of banana?

- (A) 44.64kg
- (B) 21.77kg
- (C) 35.1kg
- (D) 78.64kg

17 Temperature at the foot of a mountain is  $+10^{\circ}\text{C}$ . It fell down by  $17^{\circ}\text{C}$  at the top of the mountain. The temperature recorded on the top is

- (A)  $-17^{\circ}\text{C}$
- (B)  $7^{\circ}\text{C}$
- (C)  $17^{\circ}\text{C}$
- (D)  $-7^{\circ}\text{C}$

18 Which one of the following is correct about the given triangle?



- (A) All angles are right angles
- (B) All angles are obtuse angles
- (C) The sum of the angles of the triangle is more than  $180^{\circ}$
- (D) All angles are acute angles

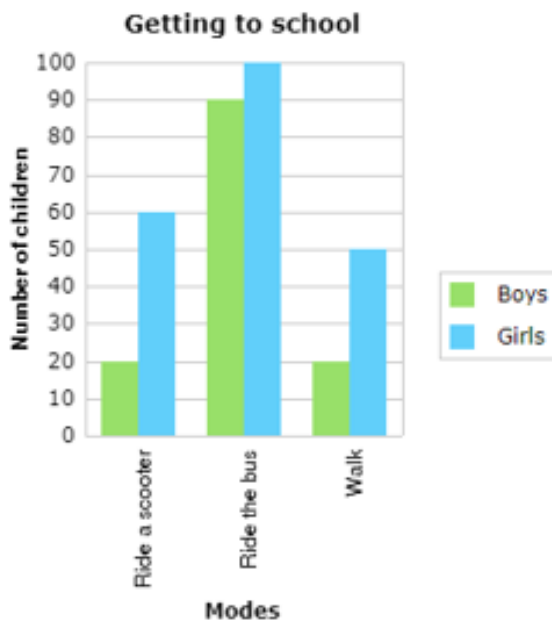
19 Mason has the following coins.



If the total value of the coins is ₹16.00, what are the missing coins?

- (A) 1 10-rupee coin and 1 5-rupee coin
- (B) 1 10-rupee coin and 1 2-rupee coin
- (C) 2 50-paise coins
- (D) 2 1-rupee coins

20 During environmental week, the Lancaster school district surveyed students to find out whether they rode the bus, biked, walked, carpooled, or rode a scooter to school.



How many more girls than boys ride a scooter to school ?

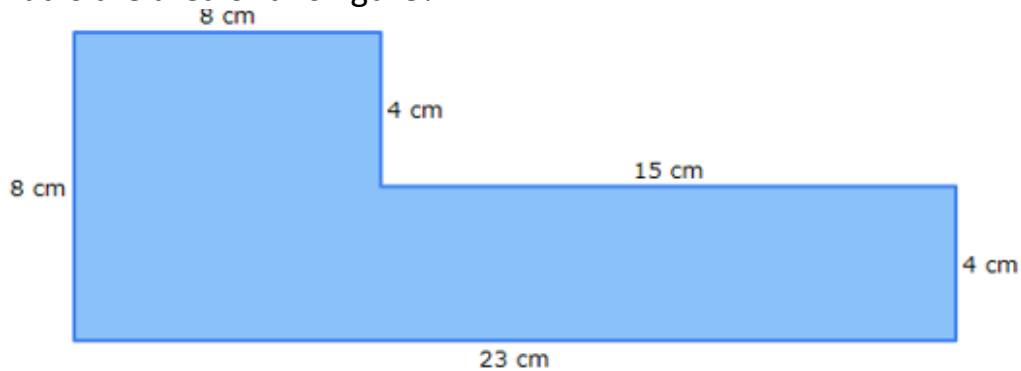
- (A) 60
- (B) 80
- (C) 40
- (D) 20

## Section C – Mathematical Reasoning

21 Which of the following expression is CORRECT?

- (A)  $0.6 < 0.06$
- (B)  $0.66 = 5/9$
- (C)  $455 > 11/25$
- (D)  $1/6 > 0.17$

22 What is the area of this figure?



- (A)  $124\text{cm}^2$
- (B)  $142\text{ cm}^2$
- (C)  $29\text{ cm}^2$
- (D)  $52\text{ cm}^2$

23 How many prime numbers are there between 1 to 50?

- (A) 18
- (B) 12
- (C) 15
- (D) 20

24 Which of the following statement is true?

- (A) -8 is larger than 16
- (B) 16 is smaller than 8
- (C) 8 is larger than -16
- (D) +16 is smaller than -8

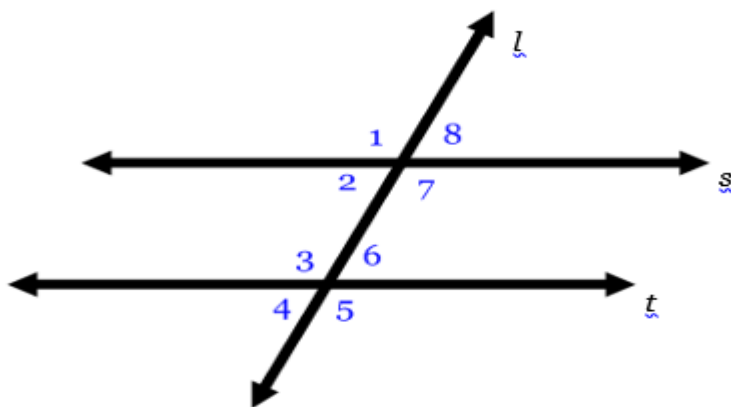
25 If  $a \times (b - c)$  is 8 for  $a = 2$ ,  $b = 10$  and  $c = 6$  then  $a \times b - a \times c$  is equal to

- (A) (-8)
- (B) 12
- (C) 10
- (D) 8



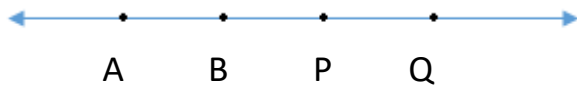
- 26 Out of following options, two angles that are together classified as complementary angles are
- (A)  $120^\circ$  and  $60^\circ$
  - (B)  $50^\circ$  and  $30^\circ$
  - (C)  $65^\circ$  and  $25^\circ$
  - (D)  $70^\circ$  and  $30^\circ$

Use the following set of parallel lines cut by a transversal to answer questions 27 and 28



- 27 In the figure above, what set of angles are vertical?
- (A)  $\angle 3$  and  $\angle 5$
  - (B)  $\angle 2$  and  $\angle 5$
  - (C)  $\angle 7$  and  $\angle 6$
  - (D)  $\angle 4$  and  $\angle 5$
- 28 what set of angles are corresponding?
- (A)  $\angle 1$  and  $\angle 5$
  - (B)  $\angle 8$  and  $\angle 7$
  - (C)  $\angle 7$  and  $\angle 6$
  - (D)  $\angle 1$  and  $\angle 3$
- 29 Kind of triangle which has two equal sides is \_\_\_\_\_
- (A) exterior angle
  - (B) equilateral triangle
  - (C) isosceles triangle
  - (D) scalene triangle

30 In the given figure below :



$$\overline{AQ} = \overline{AP} + \text{---}$$

- (A)  $\overline{PQ}$
- (B)  $\overline{BP}$
- (C)  $\overline{BQ}$
- (D)  $\overline{AB}$

31 Reciprocal of  $5\frac{2}{3}$

- (A)  $5\frac{3}{2}$
- (B)  $\frac{17}{3}$
- (C)  $2\frac{3}{5}$
- (D)  $\frac{3}{17}$

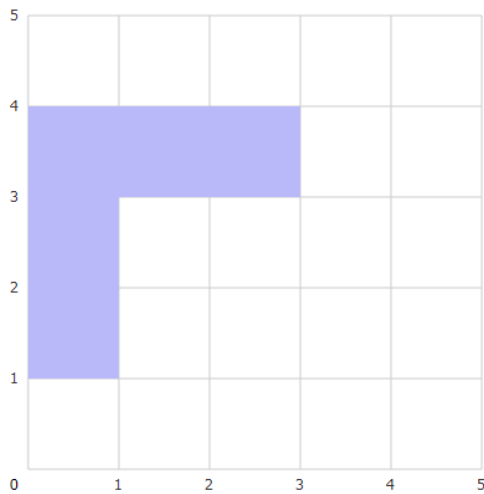
32 The value of  $(-5) \times (-4) \times (-3) \times 0 \times 3 \times 5 \times (-1) \times (-4)$  is \_\_\_\_\_

- (A) -3600
- (B) 5850
- (C) 3600
- (D) 0

33 Which of the following statement is NOT true ?

- (A)  $0 \div 0 = 0$
- (B)  $0 - 0 = 0$
- (C)  $0 + 0 = 0$
- (D)  $0 \times 0 = 0$

34 What is the **perimeter** of the shaded figure?



- (A) 4cm
- (B) 12cm
- (C) 10cm
- (D) 11cm

35 Which of the following is INCORRECT ?

- (A)  $\frac{3}{4} > \frac{2}{3}$
- (B)  $\frac{4}{5} > \frac{1}{3}$
- (C)  $\frac{9}{7} > 1$
- (D)  $\frac{1}{2} < \frac{1}{4}$

36 What is the sum of the shaded parts if shaded parts are expressed in fractions ?



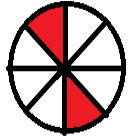
- (A) 1
- (B)  $\frac{4}{8}$
- (C)  $\frac{1}{2}$
- (D)  $1\frac{3}{8}$

37 Which of the following represents  $\frac{5}{8} - \frac{2}{8}$

(A)



(B)



(C)

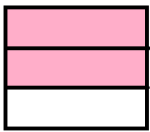


(D)

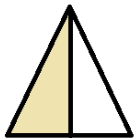


38 In which of the following does the shaded part represent two third of its whole?

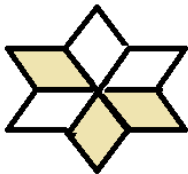
(A)



(B)



(C)



(D)



- 39 Which of the following statements are NOT true for a rectangle?  
 (A) all sides are equal.  
 (B) all angles are right angles  
 (C) opposite sides are parallel  
 (D) all angles are equal
- 40 Write the statement for the integer which is represented on the following number line.



- (A) 4 more than - 1  
 (B) 3 more than 5  
 (C) 5 less than 3  
 (D) 2 less than - 3

### Section D - Higher Order Thinking

- 41 Match the following :  
 If a, b, c, are whole numbers , then

Column- I	Column - II
(i) $a + b = b + a$	(a) distributivity of multiplication
(ii) $(a+b)+c=a+(b+c)$	(b) commutativity under addition
(iii) $a \times (b+c)=a \times b + a \times c$	(c) associativity of addition
	(d) commutativity under multiplication

- (A) (i)  $\rightarrow$  (c) ; (ii)  $\rightarrow$  (d) ; (iii)  $\rightarrow$  (a)  
 (B) (i)  $\rightarrow$  (b) ; (ii)  $\rightarrow$  (c) ; (iii)  $\rightarrow$  (d)  
 (C) (i)  $\rightarrow$  (a) ; (ii)  $\rightarrow$  (b) ; (iii)  $\rightarrow$  (c)  
 (D) (i)  $\rightarrow$  (b) ; (ii)  $\rightarrow$  (c) ; (iii)  $\rightarrow$  (a)
- 42 The value of :  $3 \frac{1}{12} - \left[ 1 \frac{3}{4} + \left\{ 2 \frac{1}{2} - \left( 1 \frac{1}{2} - \frac{1}{3} \right) \right\} \right]$
- (A)  $\frac{1}{2}$   
 (B) 2  
 (C) 1  
 (D) 0

43 Study the following statements carefully.

**Statement-1 :**

$$0.35 + 0.42 - 0.58 > 0.93 - 0.62 + 0.15$$

**Statement-2 :**
















Any two decimal numbers can be compare among themselves. The comparsion start with whole part. if the whole parts are equal , then the tenth parts can be compared and so on.

Which of the following options hold ?

- (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.

44 Read the pictograph and find the value of  $\frac{A+B-C}{D}$

One  represents 10 toys

Name	Number of Toys
Adam	 
Lily	   
Sara	  
Susan	    
Sam	

(i) The number of toys that adam and sam both have is

C

(ii)sara has

D

more toys than sam

(iii)the total number of toys owned by all the students is

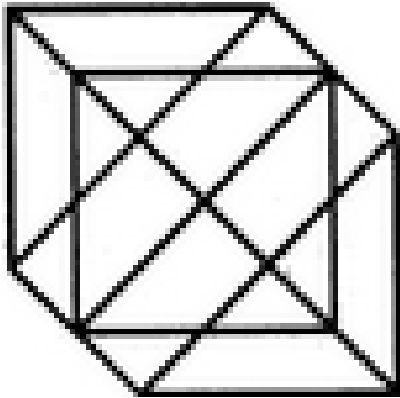
A

(iv)the number of toys susan and sam both have is

B

- (A)5
- (B)9
- (C)8
- (D)3

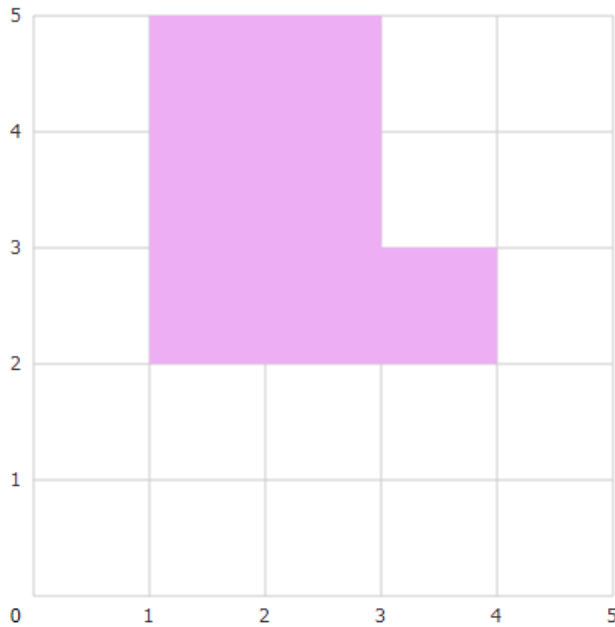
45 Find the number of triangles in the given figure.



- (A) 18
- (B) 20
- (C) 24
- (D) 27

46 What is the **area** of the shaded figure?

Each block is 1cm



- (A)  $9 \text{ cm}^2$
- (B)  $5 \text{ cm}^2$
- (C)  $7 \text{ cm}^2$
- (D)  $12 \text{ cm}^2$

47 There are 153 apples and 119 oranges. These fruits are to be arranged in heaps containing the same numbers of fruits. Then the greatest number of fruits possible in each heap is \_\_\_\_\_

- (A) 15
- (B) 23
- (C) 17
- (D) 20

48 Study the statements given below and choose the correct answer.






Statement 1 : Numbers having more than two factors are known as composite numbers.

Statement 2 : A number for which sum of all

its factors is equal to twice the number is called a perfect number.

- (A) Statement-1 is true and statement-2 is false.
- (B) Statement-1 is false and statement-2 is true.
- (C) Both statements are false
- (D) Both statements are true

49 **DIRECTION (49-50):** The sale of house on last year is shown below :

House sales last year	
Pennytown	
Charles Falls	
Briggs Corner	
Melville	
Liberty City	

Each  = 5 houses

How many houses were sold in Charles Falls?

- (A) 6
- (B) 30
- (C) 15
- (D) 20



50 If the cost of each house was RS-5,00,000. What was the total earnings in pennytown ?

(A)75,50,000

(B)78,50,000

(C)75,00,000

(D)79,00,000