

# CDS 2 2024

LIVE

# MATHS

# REVISION

CLASS 13



NAVJYOTI SIR



## 23 August 2024 Live Classes Schedule

8:00AM

23 AUGUST 2024 DAILY CURRENT AFFAIRS

RUBY MA'AM

### SSB INTERVIEW LIVE CLASSES

9:00AM

MOCK PERSONAL INTERVIEWS

ANURADHA MA'AM

### NDA 2 2024 LIVE CLASSES

11:00AM

GK - CURRENT AFFAIRS REVISION - CLASS 2

RUBY MA'AM

1:00PM

MATHS REVISION - CLASS 13

NAVJYOTI SIR

2:00PM

CHEMISTRY REVISION - CLASS 6

SHIVANGI MA'AM

5:30PM

ENGLISH - REVISION - CLASS 7

ANURADHA MA'AM

### CDS 2 2024 LIVE CLASSES

11:00AM

GK - CURRENT AFFAIRS REVISION - CLASS 2

RUBY MA'AM

2:00PM

CHEMISTRY REVISION - CLASS 6

SHIVANGI MA'AM

3:00PM

MATHS REVISION - CLASS 13

NAVJYOTI SIR

5:30PM

ENGLISH - REVISION - CLASS 7

ANURADHA MA'AM



# REVISION TOPICS :

- **Geometry**
- **Statistics**

Q) A closed polygon has six sides and one of its angles is  $30^\circ$  greater than each of the other five equal angles. What is the value of one of the equal angles?

(a)  $55^\circ$

(c)  $150^\circ$

(b)  $115^\circ$

(d)  $175^\circ$

Let each equal angle be  $x$ .

$x + 30^\circ$

$$5(x^\circ) + (x + 30)^\circ = (6 - 2) \times 180^\circ$$

$$6x + 30 = 720$$

$$6x = 690$$

$$x = \frac{690}{6} = \underline{115^\circ}$$

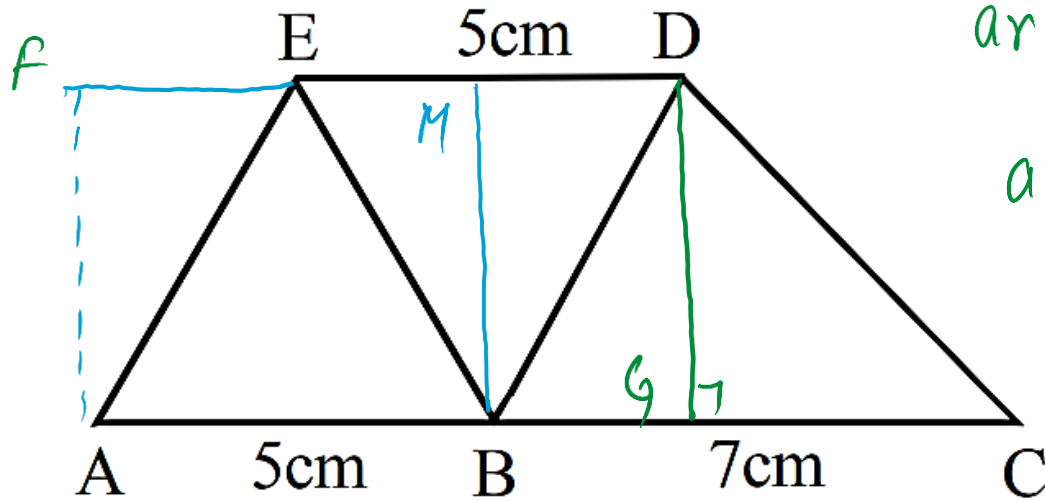
Polygon of  $n$ -sides,

$$\text{sum of angles} = \underline{(n - 2) \times 180^\circ}$$

$$\text{no. of sides, } n = \frac{360^\circ}{\text{exterior angle}} \quad (\text{for regular})$$



Q) In the figure given below, AC is parallel to ED and  $AB = DE = 5$  cm and  $BC = 7$  cm. What is the area ABDE : area BDE : area BCD equal to ?



$ABDE$  is a parallelogram (one pair of opposite sides equal and parallel)

$ar(ABDE) = AB \times AF$

$ar(BDE) = \frac{1}{2} \times DE \times BM$

$ar(BCD) = \frac{1}{2} \times BC \times DG$

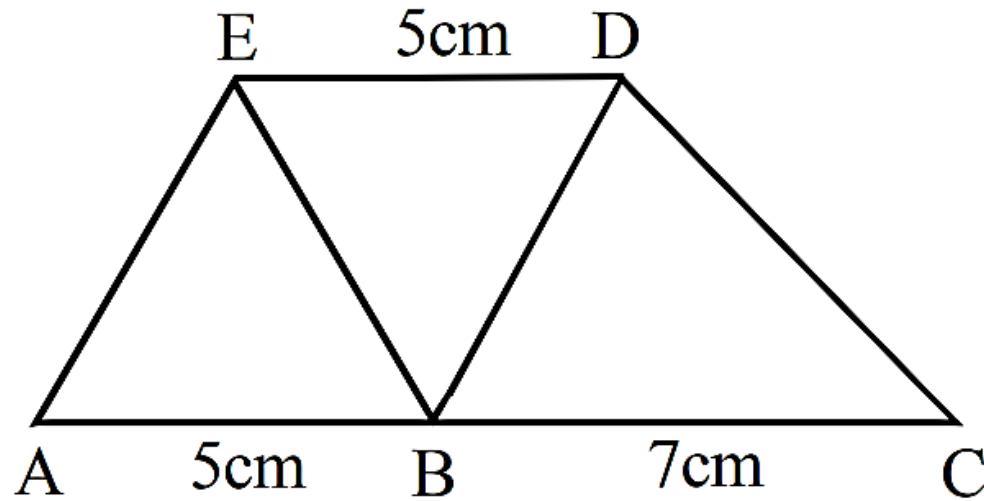
$AF = BM = DG$  (distance between parallel lines).

- (a) 10 : 5 : 7  
 (c) 2 : 1 : 2

- (b) 8 : 4 : 7  
 (d) 8 : 4 : 5

$$5 : \frac{5}{2} : \frac{7}{2} \Rightarrow \underline{10 : 5 : 7}$$

Q) In the figure given below,  $AC$  is parallel to  $ED$  and  $AB = DE = 5$  cm and  $BC = 7$  cm. What is the area  $ABDE$  : area  $BDE$  : area  $BCD$  equal to ?



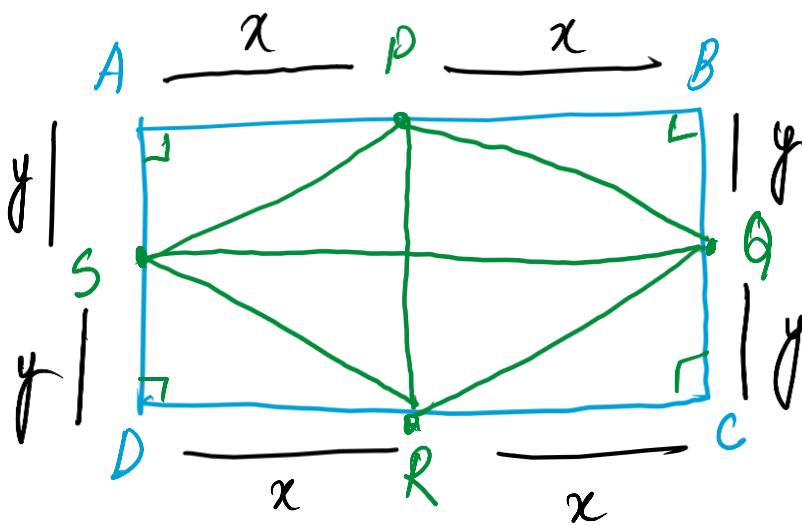
- (a)  $10 : 5 : 7$   
(c)  $2 : 1 : 2$

- (b)  $8 : 4 : 7$   
(d)  $8 : 4 : 5$

**Ans: (a)**

Q) Let ABCD be a rectangle. Let P, Q, R, S be the mid-points of sides AB, BC, CD, DA respectively. Then the quadrilateral PQRS is a

- (a) Square
- (b) Rectangle, but need not be a square
- (c) Rhombus, but need not be a square
- (d) Parallelogram, but need not be a rhombus



$$PS = SR = RQ = QP = \sqrt{x^2 + y^2}$$

$PR \neq QS$  | All 4 sides are equal  
 $(2x) \quad (2y)$  | but diagonals are not equal.  
 RHOMBUS,



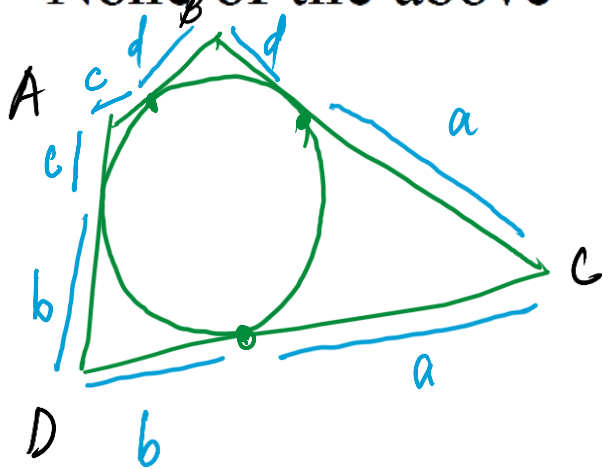
Q) Let ABCD be a rectangle. Let P, Q, R, S be the mid-points of sides AB, BC, CD, DA respectively. Then the quadrilateral PQRS is a

- (a) Square
- (b) Rectangle, but need not be a square
- (c) Rhombus, but need not be a square
- (d) Parallelogram, but need not be a rhombus

**Ans: (c)**

Q) If a quadrilateral has an inscribed circle, then the sum of a pair of opposite sides equals

- (a) Half the sum of the diagonals
- (b) Sum of the other pair of opposite sides
- (c) Sum of two adjacent sides
- (d) None of the above



$$AD + BC = c + b + d + a = \underline{a + b + c + d}$$

$$AB + CD = c + d + b + a = \underline{a + b + c + d}$$

(tangents drawn from external point to a circle are equal)

- Q) If a quadrilateral has an inscribed circle, then the sum of a pair of opposite sides equals
- (a) Half the sum of the diagonals
  - (b) Sum of the other pair of opposite sides
  - (c) Sum of two adjacent sides
  - (d) None of the above

**Ans: (b)**

A square is inscribed in a right-angled triangle with legs  $p$  and  $q$ , and has a common right angle with the triangle. The diagonal of the square is given by

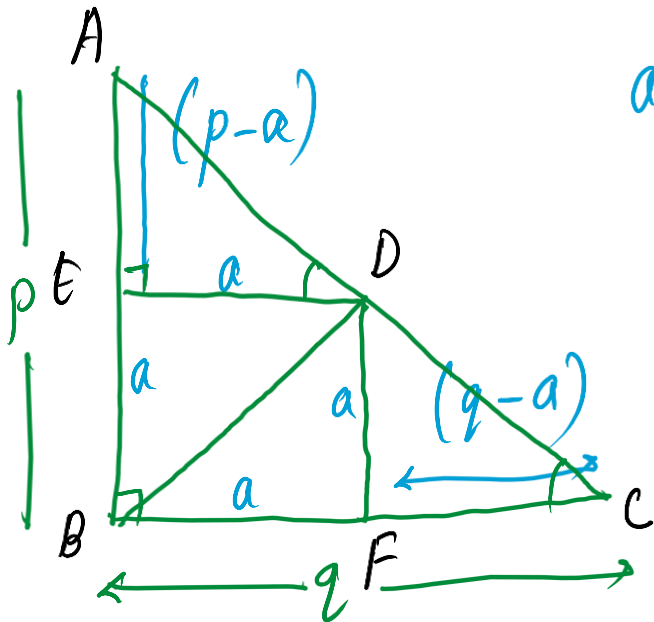
(a)  $\frac{pq}{p+2q}$

(b)  $\frac{pq}{2p+q}$

(c)  $\frac{\sqrt{2}pq}{p+q}$

(d)  $\frac{2pq}{p+q}$

let side of square be 'a'.  
 Diagonal =  $\sqrt{2}a$



$$\text{ar}(\triangle ABC) = \text{ar}(\triangle ABD) + \text{ar}(\triangle DBC)$$

$$\frac{1}{2} \times p \times q = \frac{1}{2} \times p \times a + \frac{1}{2} \times q \times a$$

$$pq = a(p+q)$$

$$\left( a = \frac{pq}{p+q} \right)$$

$$\begin{aligned} \text{Diagonal} = BD &= \sqrt{2}a \\ &= \frac{\sqrt{2}pq}{p+q} \end{aligned}$$

$$\underline{\text{(OR)}} \quad \frac{p-a}{p} = \frac{a}{q} \quad \left( \text{As } \underline{\triangle AED \sim \triangle ABC} \text{ by AA similarity} \right)$$

$$pq - aq = ap$$

$$pq = a(p+q)$$

$$a = \frac{pq}{p+q}$$

$$\text{Diagonal} = \sqrt{2} a = \frac{\sqrt{2} pq}{p+q}$$

Q) A square is inscribed in a right-angled triangle with legs  $p$  and  $q$ , and has a common right angle with the triangle. The diagonal of the square is given by

(a)  $\frac{pq}{p+2q}$

(b)  $\frac{pq}{2p+q}$

(c)  $\frac{\sqrt{2}pq}{p+q}$

(d)  $\frac{2pq}{p+q}$

**Ans: (c)**

Q) A rhombus is formed by joining midpoints of the sides of a rectangle in the suitable order. If the area of the rhombus is 2 square units, then the area of the rectangle is

- (a)  $2\sqrt{2}$  square units      (b) 4 square units  
(c)  $4\sqrt{2}$  square units      (d) 8 square units

- Q) A rhombus is formed by joining midpoints of the sides of a rectangle in the suitable order. If the area of the rhombus is 2 square units, then the area of the rectangle is
- (a)  $2\sqrt{2}$  square units      (b) 4 square units  
(c)  $4\sqrt{2}$  square units      (d) 8 square units

**Ans: (b)**



Q) ABCD is a parallelogram with AB and AD as adjacent sides.  
If  $\angle A = 60^\circ$  and  $AB = 2AD$ , then the diagonal BD will be equal to

(a)  $\sqrt{2}AD$

(b)  $\sqrt{3}AD$

(c)  $2AD$

(d)  $3AD$

Q) ABCD is a parallelogram with AB and AD as adjacent sides.  
If  $\angle A = 60^\circ$  and  $AB = 2AD$ , then the diagonal BD will be equal to

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(c)  $2AD$

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**Ans: (b)**

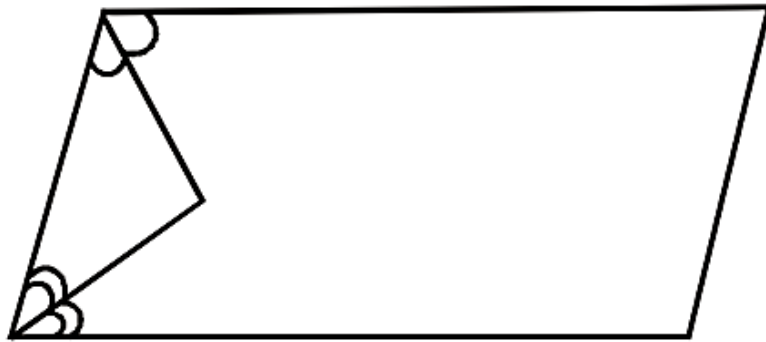
Q) In the figure given below, PQRS is a parallelogram. PA bisects angle P and SA bisects angle S. What is angle PAS equal to ?



- (a)  $60^\circ$
- (c)  $90^\circ$

- (b)  $75^\circ$
- (d)  $100^\circ$

Q) In the figure given below, PQRS is a parallelogram. PA bisects angle P and SA bisects angle S. What is angle PAS equal to ?



- (a)  $60^\circ$
- (c)  $90^\circ$

- (b)  $75^\circ$
- (d)  $100^\circ$

**Ans: (c)**

Q) The area of a rhombus with side 13cm and one diagonal 10 cm will be

(a) 140 square cm

(b) 130 square cm

(c) 120 square cm

(d) 110 square cm

Q) The area of a rhombus with side 13cm and one diagonal 10 cm will be

(a) 140 square cm

(b) 130 square cm

(c) 120 square cm

(d) 110 square cm

**Ans: (c)**

Q) In a trapezium, the two non-parallel sides are equal in length, each being of 5 cm. The parallel sides are at a distance of 3 cm apart. If the smaller side of the parallel sides is of length 2 cm, then the sum of the diagonals of the trapezium is

(a)  $10\sqrt{5}$  cm

(b)  $6\sqrt{5}$  cm

(c)  $5\sqrt{5}$  cm

(d)  $3\sqrt{5}$  cm

Q) In a trapezium, the two non-parallel sides are equal in length, each being of 5 cm. The parallel sides are at a distance of 3 cm apart. If the smaller side of the parallel sides is of length 2 cm, then the sum of the diagonals of the trapezium is

(a)  $10\sqrt{5}$  cm

(b)  $6\sqrt{5}$  cm

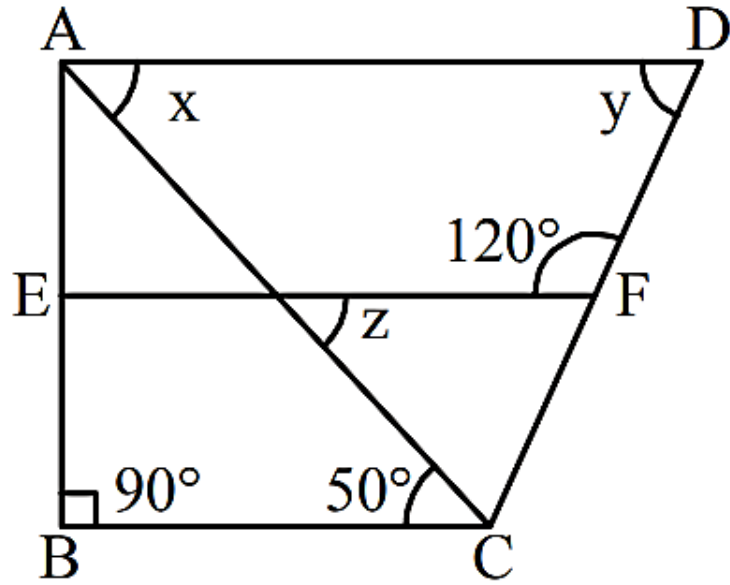
(c)  $5\sqrt{5}$  cm

(d)  $3\sqrt{5}$  cm

**Ans: (b)**



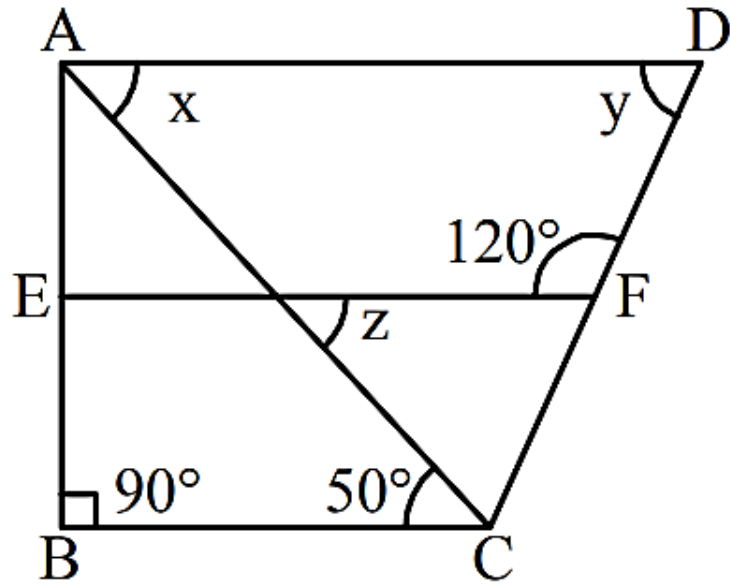
Q) In the figure given above,  $ABCD$  is a trapezium.  $EF$  parallel to  $AD$  and  $BC$ .  $\angle y$  is equal to



- (a)  $30^\circ$
- (c)  $60^\circ$

- (b)  $45^\circ$
- (d)  $65^\circ$

Q) In the figure given above,  $ABCD$  is a trapezium.  $EF$  parallel to  $AD$  and  $BC$ .  $\angle y$  is equal to



- (a)  $30^\circ$
- (c)  $60^\circ$

- (b)  $45^\circ$
- (d)  $65^\circ$

**Ans: (c)**

Q)  $ABCD$  is a trapezium with parallel sides  $AB = 2$  cm and  $DC = 3$  cm.  $E$  and  $F$  are the mid-points of the non-parallel sides. The ratio of area of  $ABFE$  to area of  $EFCD$  is

(a)  $9 : 10$

(b)  $8 : 9$

(c)  $9 : 11$

(d)  $11 : 9$

Q)  $ABCD$  is a trapezium with parallel sides  $AB = 2$  cm and  $DC = 3$  cm.  $E$  and  $F$  are the mid-points of the non-parallel sides. The ratio of area of  $ABFE$  to area of  $EFCD$  is

(a)  $9 : 10$

(b)  $8 : 9$

(c)  $9 : 11$

(d)  $11 : 9$

**Ans: (c)**

Q) If the diagonals of a quadrilateral are equal and bisect each other at right angles, then the quadrilateral is a

(a) rectangle

(b) square

(c) rhombus

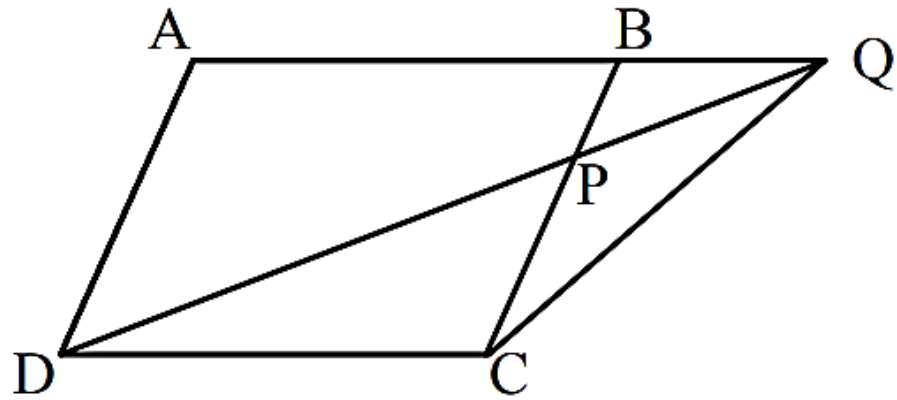
(d) trapezium

Q) If the diagonals of a quadrilateral are equal and bisect each other at right angles, then the quadrilateral is a

- |               |               |
|---------------|---------------|
| (a) rectangle | (b) square    |
| (c) rhombus   | (d) trapezium |

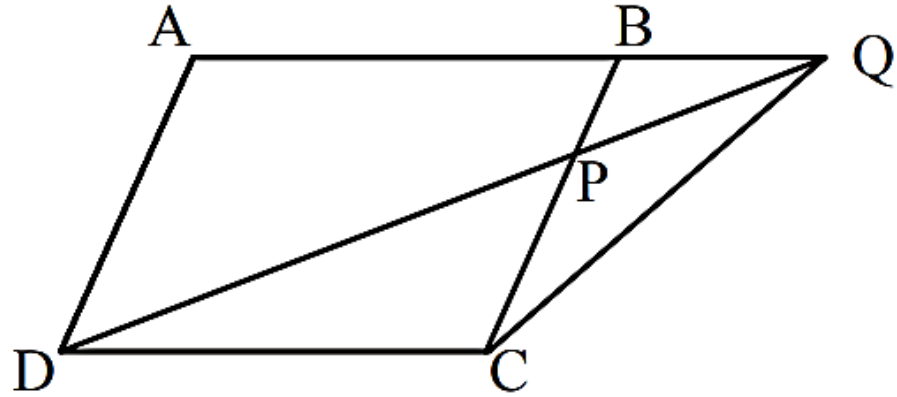
**Ans: (b)**

Q) In the figure given below,  $ABCD$  is a parallelogram.  $P$  is a point in  $BC$  such that  $PB : PC = 1 : 2$ .  $DP$  produced meets  $AB$  produced at  $Q$ . If the area of the  $\Delta BPQ$  is 20 sq units, what is the area of the  $\Delta DCP$ ?



- (a) 20 sq units                      (b) 30 sq units  
(c) 40 sq units                      (d) None of these

Q) In the figure given below,  $ABCD$  is a parallelogram.  $P$  is a point in  $BC$  such that  $PB : PC = 1 : 2$ .  $DP$  produced meets  $AB$  produced at  $Q$ . If the area of the  $\Delta BPQ$  is 20 sq units, what is the area of the  $\Delta DCP$ ?

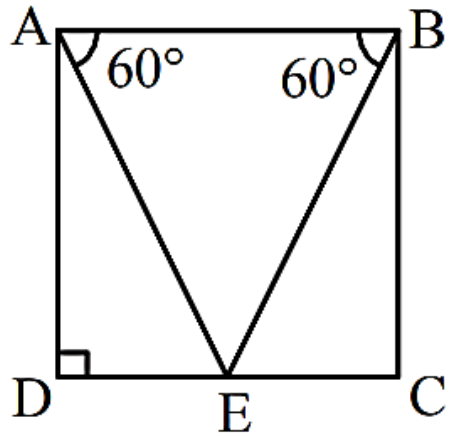


- (a) 20 sq units                      (b) 30 sq units  
(c) 40 sq units                      (d) None of these

**Ans: (d)**

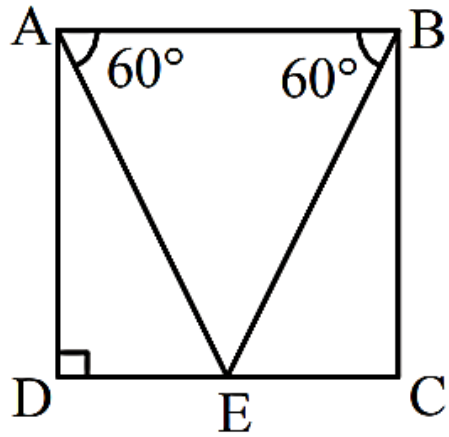


Q) In the given figure,  $ABCD$  is a quadrilateral with  $AB$  parallel to  $DC$  and  $AD$  parallel to  $BC$ ,  $\angle ADC$  is a right angle. If the perimeter of the  $\triangle ABE$  is 6 units. What is the area of the quadrilateral ?



- |                          |                          |
|--------------------------|--------------------------|
| (a) $2\sqrt{3}$ sq units | (b) 4 sq units           |
| (c) 3 sq units           | (d) $4\sqrt{3}$ sq units |

Q) In the given figure,  $ABCD$  is a quadrilateral with  $AB$  parallel to  $DC$  and  $AD$  parallel to  $BC$ ,  $\angle ADC$  is a right angle. If the perimeter of the  $\triangle ABE$  is 6 units. What is the area of the quadrilateral ?



- (a)  $2\sqrt{3}$  sq units                      (b) 4 sq units  
(c) 3 sq units                                (d)  $4\sqrt{3}$  sq units

**Ans: (a)**

Q) Consider the following frequency distribution :

x	Frequency	Cumulative frequency
1	8	8
2	10	18
3	$f_1$	29
4	$f_2$	45

$$18 + f_1 = 29 \Rightarrow f_1 = 11$$

$$29 + f_2 = 45 \Rightarrow f_2 = 16$$

What are the values of  $f_1$  and  $f_2$  respectively ?

- (a) 10 and 17                      (b) 17 and 10  
 (c) 11 and 16                      (d) 16 and 11

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<b>x</b>	<b>Frequency</b>	<b>Cumulative frequency</b>
1	8	8
2	10	18
3	$f_1$	29
4	$f_2$	45

What are the values of  $f_1$  and  $f_2$  respectively ?

- (a) 10 and 17                      (b) 17 and 10  
(c) 11 and 16                      (d) 16 and 11

**Ans: (c)**

Q) In an asymmetrical distribution, if the mean and median of the distribution are 270 and 220 respectively, then the mode of the data is

(a) 120

(b) 220

(c) 280

(d) 370

$$\text{Mode} = 3 \text{ Median} - 2 \text{ Mean}$$

$$= 3 \times 220 - 2 \times 270$$

$$= 660 - 540$$

$$= \underline{120}$$

**Q)**In an asymmetrical distribution, if the mean and median of the distribution are 270 and 220 respectively, then the mode of the data is

(a) 120

(b) 220

(c) 280

(d) 370

**Ans: (a)**

Q) Consider the following distribution :

Class	$x$	$d_i = x - A$	Frequency	$xf$	$u = \frac{x-A}{h}$
0-20	10	-40	17	170	-2
20-40	30	-20	28	840	-1
40-60	50	0	32	1600	0
60-80	70	20	$f$	$70f$	1
80-100	90	40	19	1710	2

— optional /  
another way

$$d = x - A$$

$$u = \frac{x-A}{h} \rightarrow$$

If the mean of the above distribution is 50, what is the value of  $f$ ?

- (a) 24
- (c) 56

- (b) 34
- (d) 96

$$\text{Mean} = \frac{\sum xf}{\sum f} = \frac{170 + 840 + 1600 + 70f + 1710}{96 + f} = 50$$

$$\text{Mean} = A + h \frac{\sum uf}{\sum f}$$

Q) Consider the following distribution :

Class	Frequency
0 – 20	17
20 – 40	28
40 – 60	32
60 – 80	f
80 – 100	19

If the mean of the above distribution is 50, what is the value of f ?

- (a) 24                      (b) 34  
(c) 56                      (d) 96

**Ans: (a)**



**Q) DIRECTIONS :** *The item-wise expenditure of a Non-Government Organisation for the year 2008-09 is given below.*

Item	Expenditure (in Rs. lakh)
Salary of employees	6
Social welfare activities	7 ✓
Office contingency	3
Vehicle maintenance	4
Rent and hire charges	2.5
Miscellaneous expenses	1.5

The above data are represented by a pie diagram.  
What is the central angle of the largest component?

- (a)  $120^\circ$                       (b)  $105^\circ$   
(c)  $90^\circ$                         (d)  $85^\circ$

$$\begin{aligned} \text{social welfare} &= \frac{7}{6 + 7 + 3 + 4 + 2.5 + 1.5} \times 360^\circ \\ &= \frac{7}{24} \times 360^\circ = \underline{\hspace{2cm}} \end{aligned}$$

**Q) DIRECTIONS :** *The item-wise expenditure of a Non-Government Organisation for the year 2008-09 is given below.*

Item	Expenditure (in Rs. lakh)
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Social welfare activities	7
Office contingency	3
Vehicle maintenance	4
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Miscellaneous expenses	1.5

The above data are represented by a pie diagram.  
What is the central angle of the largest component?

- (a)  $120^\circ$                       (b)  $105^\circ$   
(c)  $90^\circ$                         (d)  $85^\circ$

**Ans: (b)**

Q) What is the difference between central the angles of the largest and the smallest component?

- (a)  $90^\circ$  (b)  $85^\circ$   
 (c)  $82.5^\circ$  (d)  $77.5^\circ$

$$\frac{7 - 1.5}{24} \times 360^\circ$$

Item	Expenditure (in Rs. lakh)
Salary of employees	6
Social welfare activities	7 ✓
Office contingency	3
Vehicle maintenance	4
Rent and hire charges	2.5
Miscellaneous expenses	1.5 ✓

Q) What is the difference between central the angles of the largest and the smallest component?

(a)  $90^\circ$

(b)  $85^\circ$

(c)  $82.5^\circ$

(d)  $77.5^\circ$

Item	Expenditure (in Rs. lakh)
Salary of employees	6
Social welfare activities	7
Office contingency	3
Vehicle maintenance	4
Rent and hire charges	2.5
Miscellaneous expenses	1.5

**Ans: (c)**

Q) For  $x > 0$ , if a variable takes discrete values  $x + 4$ ,  $x - 3.5$ ,  $x - 2.5$ ,  $x - 3$ ,  $x - 2$ ,  $x + 0.5$ ,  $x - 0.5$ ,  $x + 5$ , then what is the median?

(a)  $x - 1.25$

(b)  $x - 0.5$

(c)  $x + 0.5$

(d)  $x + 1.25$

Ascending order,

$$x - 3.5, x - 3, x - 2.5, \underline{x - 2}, \underline{x - 0.5}$$

For even no. of observations,

avg. of  $\left(\frac{n}{2}\right) + \left(\frac{n}{2} + 1\right)^{\text{th}}$  observation

$$\frac{8}{2} = 4 \quad \frac{8}{2} + 1 = 5$$

$$\frac{(x - 2) + (x - 0.5)}{2}$$

Q) For  $x > 0$ , if a variable takes discrete values  $x + 4$ ,  $x - 3.5$ ,  $x - 2.5$ ,  $x - 3$ ,  $x - 2$ ,  $x + 0.5$ ,  $x - 0.5$ ,  $x + 5$ , then what is the median ?

(a)  $x - 1.25$

(b)  $x - 0.5$

(c)  $x + 0.5$

(d)  $x + 1.25$

**Ans: (a)**

Q) Consider the following frequency distribution :

Class	Frequency
0-10	4
10-20	5
20-30	7
30-40	10
40-50	12
50-60	8
60-70	4

upper limit + lower limit  
2

2	20
5	20
15	75
25	175
35	350
45	540
55	440
65	260
	<u>1860</u>

$$\text{Mean} = \frac{\sum xf}{\sum f} = \frac{1860}{50} = \underline{\underline{37.2}}$$

What is the mean of the distribution?

- (a) 37.2                      (b) 38.1  
 (c) 39.2                      (d) 40.1

**CDS 2 2024 - REVISION - MATHS – CLASS 13**

Class	Frequency
0-10	4
10-20	5
20-30	7
30-40	10
40-50	12
50-60	8
60-70	4



Q) Consider the following frequency distribution :

Ans: (a)

Class	Frequency
0-10	4
10-20	5
20-30	7
30-40	10
40-50	12
50-60	8
60-70	4

What is the mean of the distribution?

(a) 37.2

(b) 38.1

(c) 39.2

(d) 40.1

**Q)** Ten observations 6, 14, 15, 17,  $x + 1$ ,  $2x - 13$ , 30, 32, 34 and 43 are written in ascending order. The median of the data is 24.

What is the value of  $x$ ?

(a) 15

(b) 18

(c) 20

(d) 24

Q) Ten observations 6, 14, 15, 17,  $x + 1$ ,  $2x - 13$ , 30, 32, 34 and 43 are written in ascending order. The median of the data is 24.

What is the value of  $x$ ?

(a) 15

(b) 18

(c) 20

(d) 24

**Ans: (c)**

Q) Consider the following distribution:

<b>Value of the variable</b>	1	2	3	4	5
<b>Frequency</b>	3	f	6	5	3

For what value of  $f$ , is the arithmetic mean of the above distribution 3.1?

- (a) 2  
(c) 4

- (b) 3  
(d) 5

Q) Consider the following distribution:

<b>Value of the variable</b>	1	2	3	4	5
<b>Frequency</b>	3	f	6	5	3

For what value of  $f$ , is the arithmetic mean of the above distribution 3.1?

- (a) 2                      (b) 3  
(c) 4                      (d) 5

**Ans: (b)**

Q) Which one of the following relations for the numbers 10, 7, 8, 5, 6, 8, 5, 8 and 6 is correct?

(a) Mean = Median

(b) Mean = Mode

(c) Mean > Median

(d) Mean > Mode

Q) Which one of the following relations for the numbers 10, 7, 8, 5, 6, 8, 5, 8 and 6 is correct?

(a) Mean = Median

(b) Mean = Mode

(c) Mean > Median

(d) Mean > Mode

**Ans: (a)**

**Q)** The geometric mean of  $x$  and  $y$  is 6 and the geometric mean of  $x$ ,  $y$  and  $z$  is also 6. Then the value of  $z$  is

(a) 12

(b)  $\sqrt{6}$

(c) 6

(d)  $\sqrt[3]{6}$

$$\sqrt[2]{xy} = 6 \Rightarrow xy = 6^2 = 36$$

$$\sqrt[3]{xyz} = 6 \Rightarrow xyz = 6^3$$

$$\frac{xyz}{xy} = \frac{6^3}{6^2} \Rightarrow \underline{z = 6}$$



**Q)** The geometric mean of  $x$  and  $y$  is 6 and the geometric mean of  $x$ ,  $y$  and  $z$  is also 6. Then the value of  $z$  is

(a) 12

(b)  $\sqrt{6}$

(c) 6

(d)  $\sqrt[3]{6}$

**Ans: (c)**



Q) A pie chart depicts the classification of total funds of an organization according to different sources of funds. A particular sector of pie chart for corporate tax has  $108^\circ$  angle at the centre. What is the percentage of income from corporate tax to total funds ?

- |         |         |
|---------|---------|
| (a) 20% | (b) 25% |
| (c) 30% | (d) 35% |

**Ans: (c)**

**Q) DIRECTIONS** *Read the following information carefully to answer the questions that follow.*

The average age of 6 persons living in a house is 23.5 years.

Three of them are majors and their average age is 42 years.

The difference in ages of the three minor children is same.

What is the mean of the ages of minor children?

(a) 3 years

(b) 4 years

(c) 5 years

(d) 6 years

$$\text{sum of ages of 3 minor} = (6 \times 23.5) - (42 \times 3)$$

$$= 141 - 126$$

$$= \underline{15}$$

$$\text{avg} = \frac{15}{3} = 5 \text{ years}$$

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**Ans: (c)**

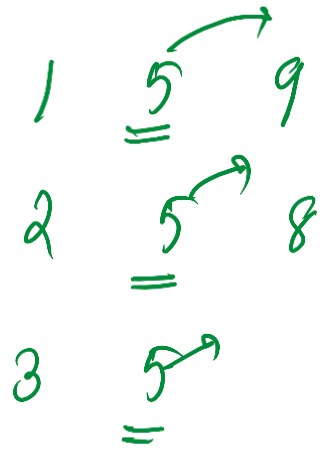
Q) What is the median of the ages of minor children?

(a) 3 years

(c) 7 years

(b) 5 years

(d) Cannot be determined



**Q)** What is the median of the ages of minor children?

(a) 3 years

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**Ans: (b)**

Q) Consider the following pairs of numbers:

I. (8, 12)

II. (9, 11)

III. (6, 24)

Which pairs of number have the same harmonic means?

(a) I and II

(b) II and III

(c) I and III

(d) I, II and III

(a, b)

$$HM = \frac{2ab}{a+b}$$

$$I.) \frac{2 \times 8 \times 12}{8+12} = \frac{\cancel{16}^4 \times 12}{\cancel{20}_5} = \frac{48}{5} = \frac{96}{10}$$

$$II.) \frac{2 \times 9 \times 11}{9+11} = \frac{9 \times 11}{10} = \frac{99}{10}$$

$$III.) \frac{2 \times 6 \times 24}{6+24} = \frac{\cancel{12}^4 \times \cancel{24}_3}{\cancel{30}_5} = \frac{48}{5}$$



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**Ans: (c)**

Q) In Statistics, a suitable graph for representing the partitioning of total into subparts is

- |                 |                  |
|-----------------|------------------|
| (a) An ogive    | (b) A pictograph |
| (c) A histogram | (d) A pie chart  |

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| (a) An ogive    | (b) A pictograph |
| (c) A histogram | (d) A pie chart  |

**Ans: (d)**

Q) What is the mean of the squares of the first 20 natural numbers ?

(a) 151.5

(b) 143.5

(c) 65

(d) 72

$$\frac{1^2 + 2^2 + 3^2 + \dots + 20^2}{20} = \frac{\cancel{21} \times 41}{\cancel{6}_2} = \frac{287}{2} = 143.5$$

Mean of squares of first 'n' natural nos.

$$\frac{\frac{n(n+1)(2n+1)}{6}}{n} = \frac{(n+1)(2n+1)}{6}$$

Q) What is the mean of the squares of the first 20 natural numbers ?

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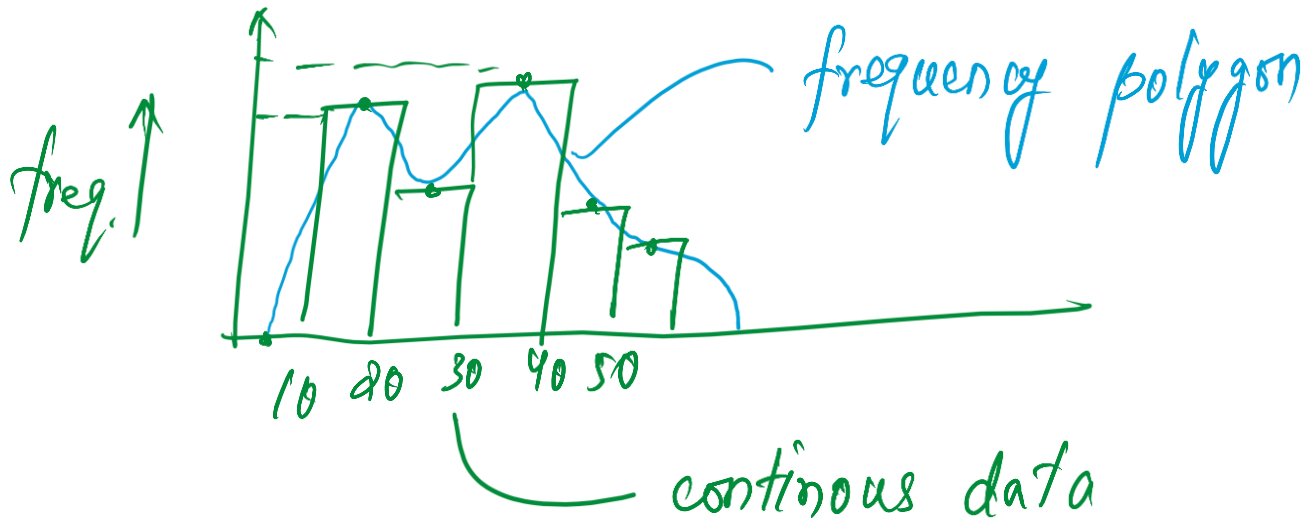
(b) 143.5

(c) 65

(d) 72

**Ans: (b)**

- Q) Which one of the following statements is not correct with reference to a histogram?
- (a) Frequency curve is obtained by joining the mid-points of the top of the adjacent rectangles with smooth curves
  - (b) Histogram is drawn for continuous data
  - (c) The height of the bar is proportional to the frequency of that class
  - (d) Mode of the distribution can be obtained from the histogram



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**Ans: (d)**

**Q)** Consider the following statements in respect of a histogram:

- I. The histogram consists of vertical rectangular bars with a common base such that there is no gap between consecutive bars.
- II. The height of the rectangle is determined by the frequency of the class it represents.

Which of the statements given above is/are correct?

- (a) Only I
- (b) Only II
- (c) Both I and II
- (d) Neither I nor II



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**Ans: (c)**

Q) The arithmetic mean of 10 numbers was computed as 7.6. It was later discovered that a number 8 was wrongly read as 3 during the computation. What should be the correct mean?

(a) 7.1

(b) 7.6

(c) 8.1

(d) 8.6

$$\frac{(7.6 \times 10) - 3 + 8}{10} = \frac{76 + 5}{10} = \frac{81}{10} = \underline{8.1}$$

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**Ans: (c)**

**REVISION  
TOPICS :  
(27/08/24)**

- **Geometry**
- **Logarithms**
- **Set Theory**
- **Probability**