

class: IX

FA3 Revision Questions Mathematics

Section A:

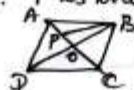
- 1) Find the value of  $k$ , if  $(2, 0)$  is a solution of  $2x + ky = 10k$ .
- 2) Find one solution of  $x = y$ .
- 3) In a parallelogram  $ABCD$ ,  $\angle D = 110^\circ$  find the measures of  $\angle A$  and  $\angle B$ .
- 4) In a parallelogram, opposite angles are bisected by \_\_\_\_\_.
- 5)  $ABCD$  is a parallelogram in which  $AE \perp DC$  and  $CF \perp AD$ . If  $AB = 16\text{cm}$ ,  $AE = 5\text{cm}$  and  $CF = 8\text{cm}$ . find  $AD$ .

Section B:

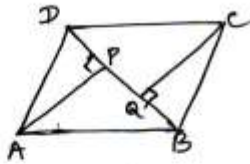
- 6) Give the equations of two lines passing through  $(2, 12)$ .
- 7) The angles  $A, B, C$  and  $D$  of a quadrilateral  $ABCD$  are in the ratio  $2:4:5:7$ . Find the measures of these angles.
- 8) If a parallelogram and a triangle are on the same base and between the same parallels, then what is the ratio of their areas?
- 9) Prove that the equal chords of a circle subtend equal angles at the centre.
- 10) Prove that of all the chords of a circle through a given point within it, the least is one which is bisected at that point.

Section C:

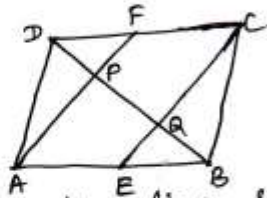
- 11) Find the points where the line  $3x + 2y = 6$  meets  $X$ -axis and  $Y$ -axis.
- 12)  $ABCD$  is a parallelogram with area  $80\text{sq. cm}$ . The diagonals  $AC$  and  $BD$  intersect at  $O$ .  $P$  is the mid-point of  $OA$ . Calculate  $\text{ar}(\triangle BOP)$ .



- 13) ABCD is a parallelogram and AP and CQ are perpendiculars from A and C on diagonal BD. Show that  
 i,  $\triangle APB \cong \triangle CQD$  ii,  $AP = CQ$



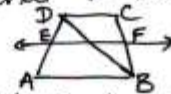
- 14) In a parallelogram ABCD, E and F are the mid-points of AB and CD. Show that AF and EC trisect BD.



- 15) Show that the line segments joining the midpoints of opposite sides of a quadrilateral bisect each other.
- 16) Diagonals AC and BD of a quadrilateral ABCD intersect at 'O' in such a way that  $\text{ar}(\triangle AOD) = \text{ar}(\triangle BOC)$ . Prove that ABCD is a trapezium.

#### Section D:

- 17) Prove that the line segment joining the midpoints of two sides of a triangle is parallel to the third side and half of the third side.
- 18) Prove that two parallelograms on the same base and between the same parallels are equal in area.
- 19) ABCD is a trapezium in which  $AB \parallel DC$ , BD is a diagonal and 'E' is the midpoint of AD. A line is drawn through E parallel to AB intersecting BC at F. Show that 'F' is the midpoint of BC.
- 20) D, E and F are respectively the mid-points of BC, CA and AB of a  $\triangle ABC$ . Show that i, BDEF is a parallelogram ii,  $\text{ar}(\triangle DEF) = \frac{1}{4} \times \text{ar}(\triangle ABC)$ .



All the best.