KINETICS
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IIT-JEE | Medical | Foundations

Areas of Parallelograms and Triangles

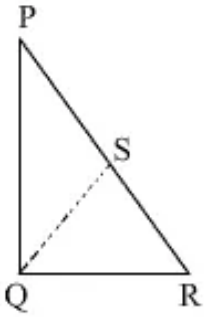
Question 1.
What is the area of a parallelogram?
(a) $\frac{1}{2}$ × Base × Altitude
(b) Base × Altitude
(c) $\frac{1}{4}$ × Base × Median
(d) Base × Base

Answer: (b) Base × Altitude

Question 2.
AE is a median to side BC of triangle ABC. If area(ΔABC) = 24 cm, then area(ΔABE) =
(a) 8 cm
(b) 12 cm
(c) 16 cm
(d) 18 cm

Answer: (b) 12 cm

Question 3.
In the figure, ∠PQR = 90°, PS = RS, QP = 12 cm and QS = 6.5 cm. The area of ΔPQR is



(a) 30 cm^2
(b) 20 cm^2

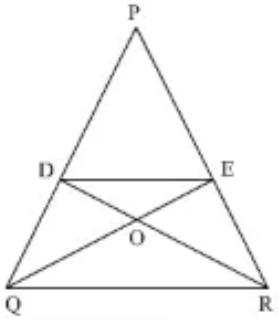
(c) 39 cm^2
(d) 60 cm^2

Answer: (a) 30 cm^2

Question 4.
BCD is quadrilateral whose diagonal AC divides it into two parts, equal in area, then ABCD
ABCD is quadrilateral whose diagonal AC divides it into two parts, equal in area, then ABCD
(a) is a rectangles
(b) is a parallelogram
(c) is a rhombus
(d) need not be any of (a), (b) or (c).

Answer: (d) need not be any of (a), (b) or (c).

Question 5.
In ΔPQR, if D and E are points on PQ and PR respectively such that DE || QR, then ar (PQE) is equal to



(a) ar (PRD)
(b) ar (DQM)
(c) ar (PED)
(d) ar (DQR)

Answer: (a) ar (PRD)

Question 6.
If Diagonals AC and BD of a trapezium ABCD with AB || DC intersect each other at O. Then,
(a) ar (AOD) = ar (BOC)
(b) ar (AOD) > ar (BOC)
(c) ar (AOD) < ar (BOC)
(d) None of the above

Answer: (a) ar (AOD) = ar (BOC)

Question 7.
For two figures to be on the same base and between the same parallels, one of the lines must be.
(a) Making an acute angle to the common base
(b) The line containing the common base
(c) Perpendicular to the common base
(d) Making an obtuse angle to the common base

Answer: (b) The line containing the common base

Question 8.
Two parallelograms are on equal bases and between the same parallels. The ratio of their areas is:
(a) 1 : 3
(b) 1 : 2
(c) 2 : 1
(d) 1 : 1

Answer: (d) 1 : 1

Question 9.
If P and Q are any two points lying on the sides DC and AD respectively of a parallelogram ABCD, then:
(a) ar(APB) > ar(BQC)
(b) ar(APB) < ar(BQC)
(c) ar(APB) = ar(BQC)
(d) None of the above

Answer: (c) ar(APB) = ar(BQC)

Question 10.
A triangle and a rhombus are on the same base and between the same parallels. Then the ratio of area of triangle to that rhombus is:
(a) 1 : 3
(b) 1 : 2
(c) 1 : 1
(d) 1 : 4

Answer: (b) 1 : 2

Question 11.
Two parallelograms are on equal bases and between the same parallels. The ratio of their areas is
(a) it is 1 : 1.
(b) it is 1 : 2.
(c) it is 3 : 1.
(d) it is 2 : 1.

Answer: (a) it is 1 : 1.

Question 12.
or two figures to be on the same base and between the same parallels ,they must have a common base and.
(a) One common vertex
(b) The vertices(or the vertex) opposite to the common base lying on a line parallel to the base
(c) The vertices(or the vertex) opposite to the common base lying on a line making an acute angle to the base
(d) Two common vertices

Answer: (b) The vertices(or the vertex) opposite to the common base lying on a line parallel to the base

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Question 13.
The median of a triangle divides it into two
(a) congruent triangles.
(b) isosceles triangles.
(c) right angles.
(d) triangles of equal areas

Answer: (d) triangles of equal areas

Question 14.
If a triangle and a parallelogram are on the same base and between the same parallels, then the ratio of the area of the triangle to the area of the parallelogram is
(a) it is 1 : 4.
(b) it is 3 : 1.
(c) it is 1 : 2.
(d) it is 1 : 4.

Answer: (c) it is 1 : 2.

Question 15.
The area of a right triangle is 30 sq cm. If the base is 5 cm, then the hypotenuse must be
(a) 12 cm
(b) 18 cm
(c) 13 cm
(d) 20 cm

Answer: (c) 13 cm

Question 16.
D,E,F are mid points of the sides BC, CA & AB respectively of ΔABC, then area of BDEF is equal to
(a) $\frac{1}{2}$ ar (ΔABC)
(b) $\frac{1}{4}$ ar (ΔABC)
(c) $\frac{1}{3}$ ar (ΔABC)
(c) $\frac{1}{6}$ ar (ΔABC)

Answer: (a) $\frac{1}{2}$ ar (ΔABC)

Question 17.
Area of a trapezium, whose parallel sides are 9 cm and 6 cm respectively and the distance between these sides is 8 cm, is
(a) 80 cm^2
(b) 30 cm^2
(c) 120 cm^2
(d) 60 cm^2

Answer: (d) 60 cm^2

Question 18.
A median of a triangle divides it into two
(a) Congruent triangles
(b) Isosceles triangles
(c) Right triangles
(d) Equal area triangles

Answer: (d) Equal area triangles
