



DELHI PUBLIC SCHOOL NEWTOWN

SESSION 2021-22

MONDAY TEST

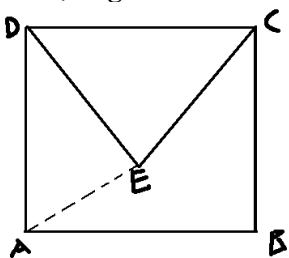
CLASS: IX
SUBJECT: MATHEMATICS

FULL MARKS: 40
DATE: 04/01/22

GENERAL INSTRUCTIONS:

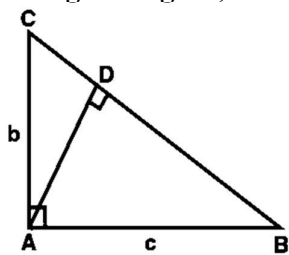
- The paper consists of 2 pages.
- All questions are compulsory.
- Copy the question number carefully before answering the questions.

1. If $\cos(A + B) = \frac{1}{2} = \sin(A - B)$, $0^\circ < A + B < 90^\circ$, $A > B$, find the values of A and B. [4]
2. Two adjacent sides of a parallelogram are 24 cm and 18 cm. If the distance between the longer sides is 12cm, find the distance between the shorter sides. [4]
3. Find the point on the y - axis which is equidistant from the points A (6, 5) and B (- 4, 3) [4]
4. If ϕ is an acute angle and $3\sin \phi = 4\cos \phi$, find the value of $4\sin^2 \phi - 3\cos^2 \phi + 2$ [4]
5. If adjoining figure, ABCD is a square and CDE is a equilateral triangle. Find angle AED, angle EAB and the reflex angle AEC.



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6. Prove that the bisectors of the angles of a parallelogram form a rectangle. [4]
7. If P (2, -1), Q (3, 4), R (-2, 3) and S (-3, -2) be four points in a plane, show that PQRS is a rhombus but not a square using distance formula. Find the area of the rhombus. [5]
8. Find the area of quadrilateral ABCD in which angle A = 90° , AB = 30cm, BC = 42cm, CD = 20 cm and DA = 16 cm. [5]

9. In the given figure, find the length of AD in terms of b and c.



[5]