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| **Millennium International School**  **Term Exams I 2023-24**  **Math – Pre IX**  Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Time Allowed: 2 hours 30 minutes Total Marks: 75 |

# Choose the correct answer (10)

1. The order of matrix [1 2] is:
2. 1 by 2 b) 2 by 1 c) 1 by 3 d) 1 by 1
3. Which is order of a square matrix:
4. 1 by 2 b) 2 by 2 c) 3 by 2 d) 1 by 3
5. Adjoint of :
6. b) c) d)
7. is a \_\_\_\_\_ matrix:
8. square b) null c) rectangle d) scalar
9. is called a \_\_\_\_\_\_ matrix.
10. square b) zero c) unit d) singular

**vi –** write in exponential form:

1. x7 b) x1/7 c) x d) x7/2

**vii –** write 42/3  in radical form:

1. b) c) d)

**viii**- the conjugate of 5+4i is:

1. -5-4i (b) -5+4i (c) -5-4i (d) 5+4i

**ix**- the value of i2  is:

1. 1 (b) -1 (c) i (d) -i

**x**- Imaginary part of (3+5i) is:

1. 3 (b) -3 (c) 5 (d) -5

# I. Solve the any six questions. (2×6=12)

1. Find negative of the matrix: B = .
2. Find transpose of matrix: A =
3. Find the additive inverse: A =
4. If B = then find B +
5. Solve:
6. Find product:  (5)
7. Define scalar matrix.

# Solve the solve any six questions. (3×6=18)

1. Express the recurring decimals as rational number:
2. Simplify:
3. Simplify: ÷
4. Find the value of x and y if: x+iy+1 = 4-3i
5. Express in standard form: -(-3+5i) – ( 4+9i)
6. If z = 2+i then find z
7. Find x and y: (2-3i) (x+yi) = 4+i

# Attempt the following questions.

1. Use factorization to find the square root of the following expression

(05)

1. Solve these equations by using cramer’s rule: 4x+y = 9 , -3x-y = - 5 (06)
2. Verify that AB = BA : A = , B = (05)
3. Any point on right bisector of a line segment is equidistant from its end points. (09)