# Worksheet: Matrices

NIOS · Class 12 · Mathematics · 8 questions · 29 marks

Name: _____ Date: _____ Score: _____ / 29

**Q1.** A matrix has 15 elements. What are all the possible orders it can have? *[2 marks]*

**Q2.** If A=[[1,2],[3,4]] and B=[[0,1],[1,0]], find AB and BA. *[3 marks]*

**Q3.** If A=[[1,2],[3,4]] and B=[[0,1],[-1,2]], verify that (AB)'=B'A'. *[3 marks]*

**Q4.** Express A=[[4,2],[6,8]] as the sum of a symmetric and a skew-symmetric matrix. *[5 marks]*

**Q5.** Why can't a matrix have two different inverses? *[3 marks]*

**Q6.** If A=[[3,1],[-1,2]], show that A^2-5A+7I=0 (the zero matrix). *[5 marks]*

**Q7.** If A is a skew-symmetric matrix of odd order, what can you say about its determinant? (Beyond this chapter's scope, but a natural extension — just reason about the diagonal here.) *[4 marks]*

**Q8.** If A is of order 2x3 and B is of order 3x2, is AB defined? Is BA defined? What are their orders? *[4 marks]*