13 **A** and **B** are two matrices such that the determinant of **A** is equal to the determinant of **B**.

Given that $\mathbf{A} = \begin{pmatrix} 3 & 2 \\ -1 & \sqrt{a} \end{pmatrix}$ and $\mathbf{B} = \begin{pmatrix} 5 & 3 \\ 1 & 4 \end{pmatrix}$ where a is a positive integer,

find the value of a.

$a =$ .....

(Total for Question 13 is 3 marks)

14 The equation of the curve C is $y = x^3 - \frac{3}{x^2}$

The point A lies on C such that the x coordinate of A is -1

Use differentiation to find the gradient of C at the point A.

.....

(Total for Question 14 is 3 marks)