Problem 1. **(1 point)**

Suppose that for a matrix A we know that $\det(A) = 12$.

(a) If $B = A^T$, what is $\det(B)$?
$\det(B) =$ ___

(b) If B is obtained by swapping rows 2 and 3; and 3 and 4 of A, what is $\det(B)$?
$\det(B) =$ ___

(c) If B is obtained from A by multiplying row 4 of A by 4 and then adding 7 times that row to row 5, what is $\det(B)$?
$\det(B) =$ ___
Answer(s) submitted:

- 12
- 12
- 48

submitted: (correct)
recorded: (correct)

Problem 2. **(1 point)**

For what value of k is the matrix

$$A = \begin{bmatrix} 2 & 2 & 3 \\ 3 & k & 1 \\ 0 & 0 & 3 \end{bmatrix}$$

not invertible?
$k =$ ___
Answer(s) submitted:

- 3

submitted: (correct)
recorded: (correct)

Problem 3. **(1 point)**

If A and B are $n \times n$ matrices with $\det(A) = 8$ and $\det(B) = 9$, calculate each of the following determinants.

(a) $\det(AB) =$ ___

(b) $\det(B^3) =$ ___

(c) $\det(A^{-1}) =$ ___
Answer(s) submitted:

- 72
- 729
- $\frac{1}{8}$

submitted: (correct)
recorded: (correct)