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2010 Matematik 2A hold 4, Lay3supplTF
Rasmus Veiergang Prentow, 5/31/10 at 12:46 PM

Question 1: *Score 0/1*

If A is a 2×2 matrix with zero determinant, then one column of A is a multiple of the other. INCORRECT

Your Answer:
Correct Answer: True

Question 2: *Score 0/1*

If two rows of a 3×3 matrix are the same, then $\det A = 0$. INCORRECT

Your Answer:
Correct Answer: True

Question 3: *Score 0/1*

If A is a 3×3 matrix, then $\det 5A = 5 \det A$. INCORRECT

Your Answer:
Correct Answer: False

Question 4: *Score 0/1*

If A and B are $n \times n$ matrices with $\det A = 2$ and $\det B = 3$, then $\det(A + B) = 5$ INCORRECT

Your Answer:
Correct Answer: False

Question 5: *Score 0/1*

If A is $n \times n$ and $\det A = 2$, then $\det A^3 = 6$. INCORRECT

Your Answer:
Correct Answer: False

Question 6: *Score 0/1*

If B is produced by interchanging two rows in A, then $\det A = \det B$. INCORRECT

Your Answer:
Correct Answer: False

Question 7: *Score 0/1*

If B is produced by multiplying row 3 of A by 5, then $\det B = 5 \cdot \det A$. INCORRECT

Your Answer:
Correct Answer: True

Question 8: *Score 0/1*

If B is formed by adding to one row in A a linear combination of the other rows in A, then $\det B = \det A$. INCORRECT

Your Answer:
Correct Answer: True

Question 9: *Score 0/1*

$\det A^T = -\det A$. INCORRECT

Your Answer:
Correct Answer: False

Question 10: *Score 0/1*

$\det(-A) = -\det A$ INCORRECT

Your Answer:
Correct Answer: False

Comment:
The general result is that for A an $n \times n$ matrix we have $\det(-A) = (-1)^n \det A$.

Question 11: *Score 0/1*

If $A^3 = 0$, then $\det A = 0$. INCORRECT

Your Answer:
Correct Answer: True

Comment:
We have $\det(A^3) = (\det A)^3$, and $(\det A)^3 = 0$ implies $\det A = 0$.

Question 12: *Score 0/1*

If A is invertible, then $\det A^{-1} = \det A$. INCORRECT

Your Answer:
Correct Answer: False

Question 13: *Score 0/1*

If A is invertible, then $(\det A)(\det A^{-1}) = 1$. INCORRECT

Your Answer:
Correct Answer: True
