Name: _____

Quiz 7

This quiz is graded out of 10 marks. No books, calculators, notes or cell phones are allowed. You must show all your work, the correct answer is worth 1 mark the remaining marks are given for the work. If you need more space for your answer use the back of the page.

Question 1. §2.2 #24 *(3 marks)* Solve by Cramer's rule, where it applies.
$7x_1 - 2x_2 = 3$
$3x_1 + x_2 = 5$

Question 2. #3.4.10 *(3 marks)* Consider two 4×4 matrices A and B, with $\det(A) = -2$ and $\det(B) = 3$. Find the determinant of M, knowing that $\det(2B^T MA^{-1}B) = \det(\text{adj}(A)A^2B)$.

Question 3. §3.1 #TF *(2 marks)* Determine whether the statement is true or false, and justify your answer.
The vectors (a,b) and $(a,b,0)$ are equivalent.

Question 4. §3.1 #TF *(2 marks)* Determine whether the statement is true or false, and justify your answer.
The linear combinations $a_1\vec{v}_1 + a_2\vec{v}_2$ and $b_1\vec{v}_1 + b_2\vec{v}_2$ can only be equal if $a_1 = b_1$ and $a_2 = b_2$.