**True or False**

If you think the statement is true, then show that it is true. On the other hand, if you think the statement is false, then give an example that disproves the statement. For example, the statement "If A and B are matrices of the same order, then A - B = B - A" is false and an example that disproves it is 

For 

while 

Such an example is called a counterexample.

1. True or false: A system comprising two linear equations in two variables has a unique solution if and only if the straight lines represented by the equations are nonparallel.
2. True or false: Suppose the straight lines represented by a system of two linear equations in two variables are parallel to each other. Then the system has infinitely many solutions.
3. True or false: If *A* and *B* are matrices of the same order, then https://content.grantham.edu/at/MA170/2014/a11.png.
4. True or false: If *A* and *B* are matrices such that *AB* and *BA* are both defined, then *A* and *B* must be square matrices.
5. True or false: If *A* is a square matrix with inverse https://content.grantham.edu/at/MA170/2014/a12.pngand *c* is a nonzero real number, then https://content.grantham.edu/at/MA170/2014/a13.png.
6. True or false: If *AX = B* is a system of *n* linear equations in *n* unknowns and https://content.grantham.edu/at/MA170/2014/a14.pngdoes not exist, then *AX = B* does not have a unique solution.

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| **Criteria** | **Grade** |
| * Answers are correct. * Questions are answered completely. * Strategies used to answer questions are appropriate. | 80%-100% |
| * Answers are mostly correct. * Most questions are answered completely. * Most strategies used to answer questions are appropriate. | 60%-79% |
| * Some answers are correct. * Some questions are answered completely and work is partially shown. * Some strategies used to answer questions are appropriate. | 40%-59% |
| * Few answers are correct. * Few questions are answered completely and work is not shown. * Few strategies used to answer questions are appropriate. | 20%-39% |
| * Assignment not complete. | 0% - 19% |