

## PC MAY/JUNE Brain Teasers

Due May 30

Solve  $3^x - 3^{(x-1)} = 162$ . Show all algebra steps.

2 points

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Solve the matrix equation  $X - XA = D$  for  $X$ .

2 points

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What is the relationship between the three elementary row operations performed on an augmented matrix and the operations that lead to equivalent systems of equations?

3 points

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Use matrices to solve. Show all work.

An inheritance of \$20,000 is divided among three investments yielding \$1780 in interest per year. The interest rates for the three investments are 7%, 9% and 11%. Find the amount of each investment if the second and third were \$3000 and \$1000 less than the first respectively.

3 points