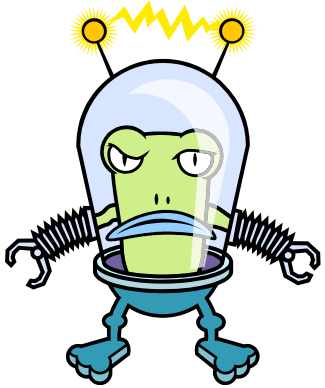
Little Lotto

Chapter 7 Review

Round One



1. Simplify:

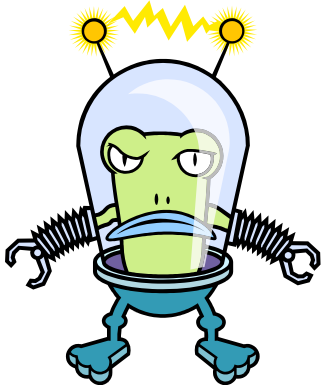
$$\begin{bmatrix} 6 & -7 \\ 2 & -12 \end{bmatrix} + \begin{bmatrix} 4 & 2 \\ -5 & -6 \end{bmatrix}$$

2. Simplify:

$$2\begin{bmatrix} 6 & -10 \\ -5 & 8 \end{bmatrix} + 5\begin{bmatrix} 2 & 1 \\ 4 & 3 \end{bmatrix}$$

3. A new restaurant is to contain two-seat tables and four-seat tables. Fire codes limit the restaurant's maximum occupancy to 56 customers. If the owners have hired enough servers to handle 17 tables of customers, how many of each kind of table should they purchase?

Check Answers!



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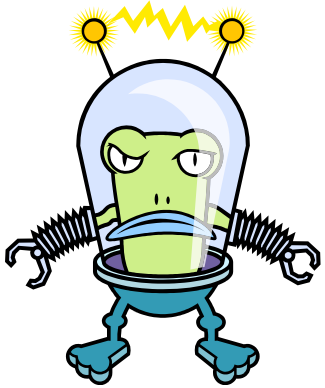

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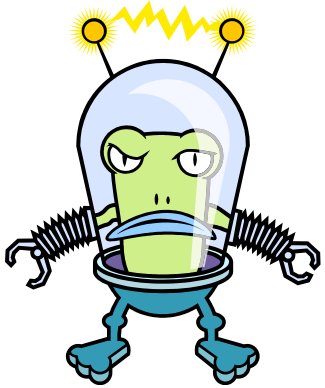


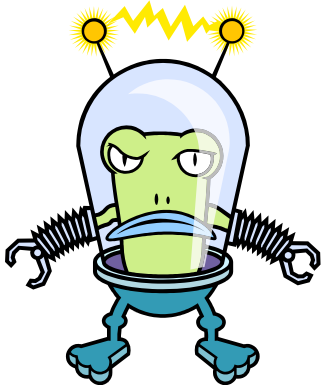
4. Write a matrix equation for the system of equations and solve the system using your calculator.

$$x + 4y - z = 6$$
$$3x + 2y + 3z = 16$$
$$2x - y + z = 3$$

5. Find the inverse of the matrix (if it exists):

$$\begin{bmatrix} 6 & 5 \\ 10 & 8 \end{bmatrix}$$

Check Answers!



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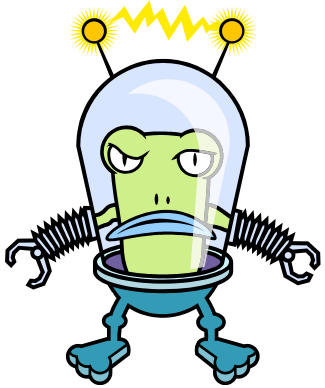

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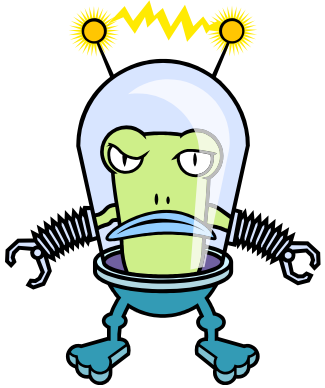

6. Simplify:

$$\begin{bmatrix} 4 & 1 \\ -2 & 3 \end{bmatrix} \cdot \begin{bmatrix} 3 & 0 \\ 0 & 3 \end{bmatrix}$$

7. Prove that the following two matrices are inverses of one another.

$$\begin{bmatrix} 8 & 11 \\ 3 & 4 \end{bmatrix} \text{ and } \begin{bmatrix} -4 & 11 \\ 3 & -8 \end{bmatrix}$$

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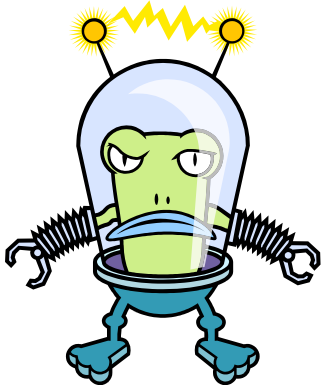

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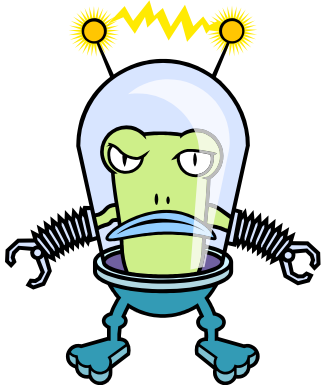
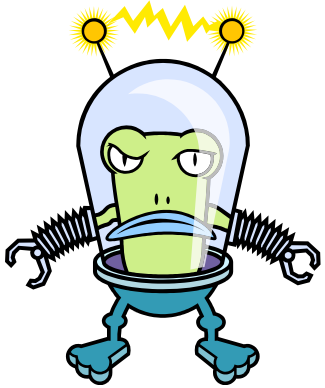


FINAL ROUND



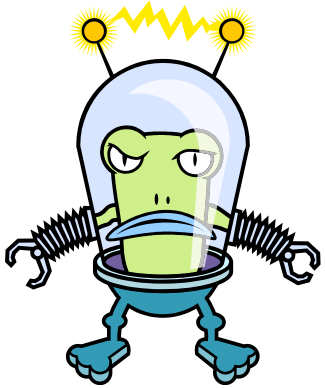
8. Find the determinant:

$$\begin{bmatrix} 1 & 3 \\ -6 & -9 \end{bmatrix}$$

9. What is the 4x4 identity matrix?

10. At the Pittsburgh zoo, children ride a train for 25 cents, adults pay $1.00, and senior citizens 75 cents. On a given day, 1400 passengers paid a total of $740 for the rides. There were 250 more children riders than all other riders. Find the number of children, adult, and senior riders.

Check Answers!



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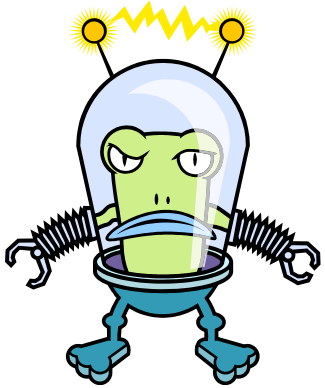
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