

1. Find the determinant: $\begin{bmatrix} 3 & 8 \\ -4 & 7 \end{bmatrix}$

2. Given matrices: $A = \begin{bmatrix} -1 & 4 & 5 \\ 2 & 11 & 6 \end{bmatrix}$; $B = \begin{bmatrix} -3 & 5 & -1 \\ 4 & 0 & 1 \end{bmatrix}$, find $2A - 3B$

3. How many arrangements of the letters of the word "remand" are possible if they begin with "re"?

4. How many different 8 letter words are possible using the letters in the word "syllabus"?

5. One hundred tickets are sold for a movie at the cost of \$10 each. Some tickets have cash prizes as a part of a promotional campaign. One prize of \$ 50, three prizes of \$ 25, and five prizes of \$20 are awarded. What is the expected value if you buy 1 ticket?

6. In how many different ways can 7 floats line up for the homecoming parade?

7. **GRIDDED RESPONSE** Every Saturday, 10 friends play dodgeball at a local park. To pick teams, they randomly draw cards with consecutive integers from 1 to 10. Odd numbers are on Team A, and even numbers are Team B. What is the probability that a player on Team B has drawn the number 10?

8. A poll shows that 83% of voters in a city favor an initiative to increase spending on public schools. If 10 voters are selected at random, what is the probability that exactly five of them will vote in favor of the initiative?

9. Find the leading coefficient of the indicated term, $(5x - 9y)^7$, x^3y^4 term

10. Expand: $(4m - 5n)^4$