

Matrices

Background Information:

- Students will need to know how to organize data into matrix form.
 - Students will need to know how to enter data into a matrix in the graphing calculator.
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Materials and Equipment:

- Graphing calculator and view screen
 - Overhead projector
 - Each student will need:
graphing calculator and handouts
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Notes to Teacher:

- It is the intent of this activity that students will organize and manipulate data in matrix form.
 - A bonus to this activity is that students are exposed to the distributive property without “calling it “ the distributive property.
 - When you get to #11, you may want to refer back to **A.2, Getting to know your calculator** –Boolean Algebra.
 - Students may work alone or in pairs on this activity.
 - The time allotted for this activity varies depending on the ability level of the students.
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Activity Sheet: Matrices

Enter the following information in Matrix form into Matrix A and Matrix B on your calculator.

When finished return to the HOME SCREEN

	shoes	socks	jackets	ties	rings
Matrix A	11	14	3	7	2

Matrix B	15	18	6	4	20
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Find the following:

1. $[A] + [B] =$
2. Explain a situation that describes the operation in #1.
3. $[A] - [B] =$
4. Explain a situation that describes the operation in #3.
5. $5[A] =$
6. Explain a situation that describes the operation in #5.
7. Explain the process necessary to do the following:
Multiply Matrix $[A]$ by 11.

Actual Result =

8. Explain the process necessary to do the following:
Add Matrix $[A]$ to Matrix $[B]$ and multiply this result by 5.

Actual Result =

9. Explain the process necessary to do the following:
Take Matrix $[A]$ and Add 5 times Matrix $[B]$.

Actual Result =

10. Explain the process necessary to do the following:
Multiply Matrix $[A]$ by 11, Multiply Matrix $[B]$ by 4 and then Add the result together.

Actual Result =

The following are algebraic.

11. $5(x - 9) =$

12. $8(9 + 4x) =$

13. $x(y + 7) =$

14. $4(3x - 9r) =$

15. $6(5x + 3y) =$

16. $5x(7 - 3y) =$

17. $4a(5c + 2r) =$

18. $(10z - 9)5 =$

19. $(8 + 9T)6 =$

20. The measure of an angle is described as $m\angle ABC$ and is described as $4x + 19$.
Find the expression for 6 times $m\angle ABC$.