

EXERCISE - PRETEST

Instructions: *Solve these problems involving addition, subtraction, multiplication, and division.*

1. $4 + 5 = \underline{9}$ 2. $15 \div 3 = \underline{5}$
3. $8 - 3 = \underline{5}$ 4. $7 \times 3 = \underline{21}$

Instructions: *Fill in the blank.*

5. 7 days = 1 week(s)
6. 1 hour = 60 minute(s)
7. 1 year = 365 day(s)
8. 1 minute = 60 second(s)

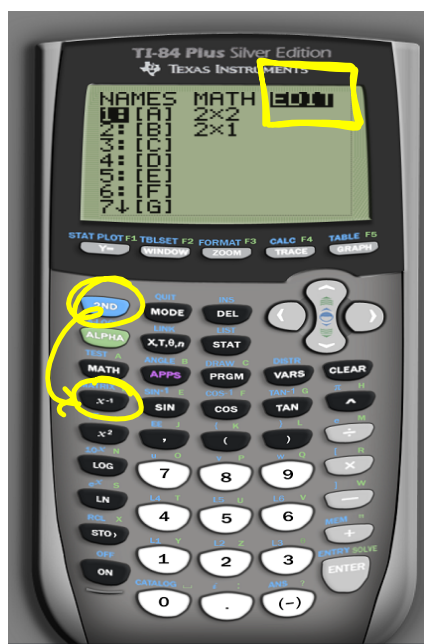
Instructions: *Answer the following questions.*

9. What is the purpose of the "Clear" key on the calculator? (There may be a key with "CE" on it and a key with "C" on it.)

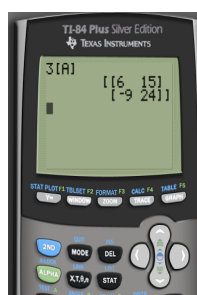
Answers vary

Matrices: Calculator

$$A = \begin{bmatrix} 2 & 5 \\ -3 & 8 \end{bmatrix}$$



$$3A = \begin{bmatrix} 6 & 15 \\ -9 & 24 \end{bmatrix}$$



Use your calculator to multiply each of the matrices.

$$1) \begin{bmatrix} -2 \\ -1 \\ 3 \end{bmatrix} \cdot \begin{bmatrix} -5 & -3 \end{bmatrix}$$

$$\begin{bmatrix} 10 & 6 \\ 5 & 3 \\ -15 & -9 \end{bmatrix}$$

$$2) \begin{bmatrix} 2 & 2 \\ 1 & -4 \end{bmatrix} \cdot \begin{bmatrix} -4 & -5 & 6 \\ -3 & -3 & 1 \end{bmatrix}$$

$$\begin{bmatrix} -14 & -16 & 14 \\ 18 & 7 & 2 \end{bmatrix}$$

$$3) \begin{bmatrix} 2 & -5 & 4 \\ 6 & -2 & 6 \end{bmatrix} \cdot \begin{bmatrix} 2 & -5 \\ 4 & -1 \\ 1 & -1 \end{bmatrix}$$

$$\begin{bmatrix} -12 & -9 \\ 10 & -34 \end{bmatrix}$$

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$$4) \begin{bmatrix} 4 & -3 & -4 \end{bmatrix} \cdot \begin{bmatrix} 5 & -4 \\ -4 & 0 \\ 0 & -2 \end{bmatrix}$$

$$\begin{bmatrix} 32 & -8 \end{bmatrix}$$

$$\begin{cases} 2x + 4y = 10 \\ -x + 2y = 7 \end{cases}$$

coefficient

$$\begin{bmatrix} 2 & 4 \\ -1 & 2 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 10 \\ 7 \end{bmatrix}$$

variable matrix

constant matrix

$$\begin{aligned} 2x &= 10 \\ x &= \frac{1}{2}(10) \end{aligned}$$

Instead of division just multiply by an inverse.

$$\begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 2 & 4 \\ -1 & 2 \end{bmatrix}^{-1} \begin{bmatrix} 10 \\ 7 \end{bmatrix}$$