



SECRET AGENT MATRICES!!!

Name(s): \_\_\_\_\_

Date: \_\_\_\_\_ Bell: \_\_\_\_\_

Mission:

Decode the matrices to reveal a secret message! (Show all work as usual!)

1.) GIVEN:  $A = \begin{bmatrix} 3a + 2 & -4b \\ c - 6 & 2d + 1 \end{bmatrix}$  and  $B = \begin{bmatrix} -2a + 3 & 5b + 3 \\ 7 & 3d - 3 \end{bmatrix}$  IF:  $A + B = \begin{bmatrix} 18 & 4 \\ 21 & 38 \end{bmatrix}$

FIND:

$a =$

$b =$

$c =$

$d =$

2.) GIVEN:  $C = \begin{bmatrix} 9e - 7 & 3f + 8 \end{bmatrix}$  and  $D = \begin{bmatrix} 6e - 3 & 2f + 1 \end{bmatrix}$  IF:  $C - D = \begin{bmatrix} 23 & 26 \end{bmatrix}$

FIND:

$e =$

$f =$

3.) GIVEN:  $E = \begin{bmatrix} 2g - 1 & h + 4 \\ 3j & 5 - k \end{bmatrix}$  IF  $2E = \begin{bmatrix} 10 & 38 \\ 90 & -14 \end{bmatrix}$

FIND:

$g =$

$h =$

$j =$

$k =$

\_\_\_\_\_ !!  
 $a$     $b$     $c$     $d$     $e$     $f$     $g$     $h$     $j$     $k$

Now create your own!  
 Create a secret message and use matrix equations to solve it.  
 On 2 pieces of paper:  
     1 paper with the questions and code (10 pts)  
     1 paper with the work shown and answer key (10pts)