

## 12.4 Practice – Encoding Messages

Name: Solutions

Algebra 2

**For 1-3, use the given encoding matrix to ENCODE the words or phrases.**

1. Encoding Matrix =  $\begin{bmatrix} -10 & 9 \\ 7 & 8 \end{bmatrix}$ ,  
message = *Harry Potter*

-73 80 -54 306 -250 225 -55 264  
-60 340 76 189

2. Encoding Matrix =  $\begin{bmatrix} 1 & 8 \\ 5 & -5 \end{bmatrix}$ ,  
message = *Statue of Liberty*

119 52 101 -92 46 143 75 -75 6 48  
57 51 27 -9 118 44 25 200

3. Encoding Matrix =  $\begin{bmatrix} -9 & 3 \\ -3 & -6 \end{bmatrix}$ ,  
message = *Get help*

-78 -9 -180 60 -87 -6 -156 -60

**For 4-6, use the given encoding matrix to DECODE the numbers into a word of phrase.**

4. Encoding Matrix =  $\begin{bmatrix} -8 & 8 \\ -10 & 5 \end{bmatrix}$ , encoded message:  
-206 131 -260 190 -122 97 -152 152

Goonies

5. Encoding Matrix =  $\begin{bmatrix} -7 & 9 \\ -2 & -9 \end{bmatrix}$ , encoded message:  
-97 90 -16 -72 -33 -108 -101 72 -126 162

MC Hammer

6. Encoding Matrix =  $\begin{bmatrix} 4 & 6 \\ -10 & 9 \end{bmatrix}$ , encoded message:  
-82 93 0 48 -160 192 42 87 -34 165 4 6

Biebermania

**SAT prep:**

7) For how many integer values of  $x$  will  $\frac{7}{x}$  be greater than  $\frac{1}{4}$  and less than  $\frac{1}{3}$ ?

- (A) 6 (B) 7  
(C) 12 (D) 28  
(E) Infinitely many

Watch application walkthrough

8) Each of the fractions below is in its simplest reduced form, and  $a$  is an integer greater than 1 and less than 50. Grid-in one possible value of  $a$ .

.	.	.	.
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

$$\frac{3}{a}, \frac{5}{a}, \frac{14}{a}$$

Watch application walkthrough