

Name \_\_\_\_\_

# 4-2A Lesson Master

## Questions on SPUR Objectives

See Student Edition pages 293–297 for objectives.

### SKILLS Objective B

In 1–4, perform the indicated operations.

1.  $\begin{bmatrix} 8 \\ 5 \end{bmatrix} + \begin{bmatrix} 4 \\ -1 \end{bmatrix} =$  \_\_\_\_\_
2.  $[-3 \ 5 \ -1] - [5 \ 2 \ 0] =$  \_\_\_\_\_
3.  $2 \begin{bmatrix} 7 & 8 \\ -3 & 5 \end{bmatrix} + \frac{1}{2} \begin{bmatrix} 4 & 2 \\ 5 & 0 \end{bmatrix} =$  \_\_\_\_\_
4.  $\begin{bmatrix} a & b \\ c & d \end{bmatrix} + \begin{bmatrix} e & f \\ g & h \end{bmatrix} =$  \_\_\_\_\_
5. Find  $a$  and  $b$ .  $3 \begin{bmatrix} 7 & 8 & -2 \\ -3 & 5 & 1 \end{bmatrix} - \begin{bmatrix} 4 & 2a & -9 \\ 5 & 0 & -1 \end{bmatrix} = \begin{bmatrix} 17 & 2 & 3 \\ -14 & 15 & b \end{bmatrix}$  \_\_\_\_\_

### PROPERTIES Objective E

6. Give the dimensions of a matrix that could be added to  $\begin{bmatrix} 4 & 2 & -3 \\ -6 & 0 & 1 \end{bmatrix}$  \_\_\_\_\_
7. A  $4 \times 3$  matrix is multiplied by the scalar 5.  
What are the dimensions of the resulting matrix? \_\_\_\_\_
8. Is matrix addition *associative*, *commutative*, *both*, or *neither*? \_\_\_\_\_

### USES Objective J

In 9 and 10, companies A and B merge. The total number of employees at each company before the merger is given in matrices A and B below.

		Manage- ment	Adminis- trative	Manufac- turing		Manage- ment	Adminis- trative	Manufac- turing	
$A =$	Full-time	12	15	7	$B =$	Full-time	28	33	125
	Part-time	1	7	1		Part-time	3	5	9

9. Find the matrix  $C = A + B$  and explain what C represents.

		Manage- ment	Adminis- trative	Manufac- turing	
$C =$	Full-time				_____
	Part-time				_____

10. After the merger, the board of directors decides to reduce the workforce by 25%. Show the matrix arithmetic that will give the new employment totals.

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