

5-5 Matrices 2

Name: _____

Time Start: _____ Finish: _____ Total Time = _____

$$A = \begin{bmatrix} 4 & 2 \\ 6 & 5 \end{bmatrix} \quad B = \begin{bmatrix} 4 & -2 \\ 3 & -1 \end{bmatrix} \quad C = \begin{bmatrix} 5 & 2 \\ 2 & 1 \end{bmatrix} \quad D = \begin{bmatrix} 4 & 2 & 8 \\ 3 & 3 & 5 \\ 1 & 1 & 6 \end{bmatrix}$$

Find the determinant of the following.

1. $\det(A)$

2. $\det(B)$

3. $\det(C)$

4. What is the identity matrix of a 2 x 2 matrix?

5. What is the identity matrix of a 3 x 3 matrix?

Find the multiplicative inverses of the given matrices. Remember that

$$\text{if } A = \begin{bmatrix} a_1 & b_1 \\ a_2 & b_2 \end{bmatrix} \text{ then } A^{-1} = \frac{1}{\det A} \bullet \begin{bmatrix} b_2 & -b_1 \\ -a_2 & a_1 \end{bmatrix}$$

6. A^{-1}

7. B^{-1}

8. C^{-1}

SAT Questions

_____ 9. If $k = \frac{x}{3}$ and $x \neq 0$, what does $3x$ equal in terms of k ?

- A. k B. $9k$ C. $\frac{9}{k}$ D. $\frac{k}{9}$ E. $\frac{k}{3}$

_____ 10. If $r = s^6 = t^4$ and r is positive, then $st =$

- A. $r^{\frac{1}{24}}$ B. $r^{\frac{1}{10}}$ C. $r^{\frac{5}{12}}$ D. r^{10} E. r^{24}

_____ 11. If X is the set of negative numbers and Y is the set of positive numbers, then the union of X and Y and 0 is the set of

- A. all real numbers
B. all integers
C. all rational numbers
D. all irrational numbers
E. all odd integers