

50. **CHALLENGE** Verify the formula on page 210 for the inverse of a 2×2 matrix by showing that $AB = I$ and $BA = I$ for the matrices A and B given below.

$$A = \begin{bmatrix} a & b \\ c & d \end{bmatrix} \quad B = \frac{1}{ad - cb} \begin{bmatrix} d & -b \\ -c & a \end{bmatrix}$$



MIXED REVIEW FOR TAKS

TAKS PRACTICE at classzone.com

REVIEW

TAKS Preparation
p. 66;
TAKS Workbook

51. **TAKS PRACTICE** A grocer wants to mix peanuts worth \$2.50 per pound with 12 pounds of cashews worth \$4.75 per pound. To obtain a nut mixture worth \$4 per pound, how many pounds of peanuts are needed? **TAKS Obj. 10**

- (A) 3.6 lb (B) 6 lb (C) 12 lb (D) 18 lb

REVIEW

Lesson 1.3;
TAKS Workbook

52. **TAKS PRACTICE** The sum of three numbers is 141. The second number is 5 less than three times the first number. The third number is 2 more than four times the first number. Which equation represents the relationship between the three numbers where n is the first number? **TAKS Obj. 1**

- (F) $141 = n - (3n - 5) - (4n + 2)$ (G) $141 = n + (4n - 5) + (3n + 2)$
(H) $141 = n + (3n - 5) + (4n + 2)$ (J) $141 = n + (5 - 3n) + (2 + 4n)$

REVIEW

Lesson 3.2;
TAKS Workbook

53. **TAKS PRACTICE** Which ordered pair is the solution of this system of linear equations? **TAKS Obj. 4**

$$\begin{aligned} 5x + y &= -17 \\ 2x - 7y &= 8 \end{aligned}$$

- (A) $(-3, -2)$ (B) $(-3, 2)$ (C) $(3, -\frac{2}{7})$ (D) $(11, 2)$

QUIZ for Lessons 3.6–3.8

Using the given matrices, evaluate the expression. (p. 195)

$$A = \begin{bmatrix} 1 & -4 \\ 5 & 2 \end{bmatrix}, B = \begin{bmatrix} 2 & -3 \\ 0 & 1 \end{bmatrix}, C = \begin{bmatrix} -6 & -1 \\ 2 & 4 \end{bmatrix}$$

1. $2AB$ 2. $AB + AC$ 3. $A(B + C)$ 4. $(B - A)C$

Evaluate the determinant of the matrix. (p. 203)

5. $\begin{vmatrix} 5 & 4 \\ -2 & -3 \end{vmatrix}$ 6. $\begin{vmatrix} 1 & 0 & -2 \\ -3 & 1 & 4 \\ 2 & 3 & -1 \end{vmatrix}$ 7. $\begin{vmatrix} 2 & -1 & 5 \\ -3 & 6 & 9 \\ -2 & 3 & 1 \end{vmatrix}$

Use an inverse matrix to solve the linear system. (p. 210)

8. $x + 3y = -2$
 $2x + 7y = -6$ 9. $3x - 4y = 5$
 $2x - 3y = 3$ 10. $-3x + 2y = -13$
 $6x - 5y = 24$
11. $3x - y = -4$ 12. $7x + 4y = 6$ 13. $4x + y = -2$
 $2x - 2y = -8$ $5x + 3y = -25$ $-6x + y = 18$

14. **BOATING** You are making a triangular sail for a sailboat. The vertices of the sail are $(0, 2)$, $(12, 2)$, and $(12, 26)$ where the coordinates are measured in feet. Find the area of the sail. (p. 203)

