

## Answers to Unit 6 Systems of Equations Review

$$1) \begin{bmatrix} -\frac{2}{3} & \frac{5}{6} \\ 1 & -1 \end{bmatrix}$$

$$2) \begin{bmatrix} -\frac{1}{3} & 0 \\ -\frac{5}{3} & -1 \end{bmatrix}$$

$$3) \begin{bmatrix} \frac{1}{6} & -\frac{1}{6} \\ \frac{1}{6} & \frac{5}{6} \end{bmatrix}$$

$$4) \begin{bmatrix} -1 & -1 \\ \frac{2}{7} & \frac{3}{7} \end{bmatrix}$$

$$5) \begin{bmatrix} 0 & 5 & 4 \\ -\frac{1}{9} & \frac{11}{9} & \frac{8}{9} \\ \frac{1}{9} & \frac{25}{9} & \frac{19}{9} \end{bmatrix}$$

6) No inverse exists

$$7) -15$$

$$8) -1$$

$$9) \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 2 \\ 5 \end{bmatrix}$$

$$10) \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} -3 \\ 2 \end{bmatrix}$$

$$11) \begin{bmatrix} x \\ y \\ z \end{bmatrix} = \begin{bmatrix} 0 \\ -1 \\ 5 \end{bmatrix}$$

$$12) \begin{bmatrix} x \\ y \\ z \end{bmatrix} = \begin{bmatrix} -2 \\ 1 \\ -5 \end{bmatrix}$$

13)  $(x - h)^2 + (y - k)^2 = r^2$ . It comes from the Pythagorean theorem, since a circle is just an infinite amount of triangles with the same length of hypotenuse.

$$14) (2, 6), (4, 2)$$

$$15) (-5, 0), (0, 5)$$

$$16) (-1, 0), (0, 1), (1, 0)$$

$$17) (-4, -1), (-3, 0)$$

$$18) (-3, 0), (0, 6)$$

19) No solution      20)

$$21) (0, 1), (6, 7)$$

$$22) (-3, 0), (5, 8)$$

23)  $(-3, 0), (1, 8)$       24) No solution

$$25) (0, 2), (-4, -2)$$

$$26) [(0, -2), (12, 34)]$$

27) adult ticket: \$8, child ticket: \$10

$$28) \text{b. } 9 \text{ cm and } 14 \text{ cm}$$

$$29) (x + 6)^2 + (y + 10)^2 = 25$$

$$30) (x + 8)^2 + (y + 13)^2 = 16$$

$$31) (x - 16)^2 + (y - 13)^2 = 8$$

$$32) (x - 1)^2 + (y - 13)^2 = 10$$