1. Joan went to a department store to buy a sweater that was on sale for 25% off the original price, p. Which equation can be used to determine s, the sale price of the sweater, not including tax?

   A. $s = p + 0.75p$
   B. $s = p + 0.25p$
   C. $s = p - 0.75p$
   D. $s = p - 0.25p$

2. Anna makes hand-painted plates. Her overhead costs are $750 per week, and she pays an additional $10 per plate in material costs. If Anna sells the plates for $25 each, how many plates does she have to sell each week before she can make a profit?

   A. 20
   B. 30
   C. 50
   D. 75

3. The graphs of the linear equations $y = 2x - 3$ and $y = 3x - 7$ are shown below.
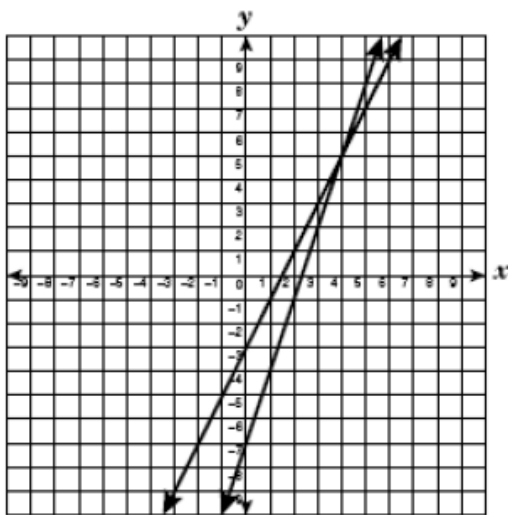
   If $2x - 3 = 3x - 7$, what is the value of x?

   A. 4
   B. 5
   C. 9
   D. 10

4. Ida has a budget of $25 to spend on flowers. A package of flowers costs $1.99, and a hanging basket of flowers costs $5.10. Both prices include tax. Which inequality can be used to determine p, the number of packages of flowers she can buy if she also buys a hanging basket of flowers?

   F. $1.99p - 5.10 \leq 25$
   G. $5.10 + 1.99p \leq 25$
   H. $(1.99 + 5.10)p \leq 25$
   J. $5.10 - 1.99p \leq 25$

5. What is the value of y if $(3, y)$ is a solution to the equation $5x - 3y = 18$?

   F. 3
   G. 1
   H. -1
   J. -11

6. The length of each leg of an isosceles triangle is 5 centimeters more than twice the length of the base. If the perimeter of this isosceles triangle is 95 centimeters, what is the length of the base?

   F. 17 cm
   G. 21 cm
   H. 30 cm
   J. 39 cm

7. A waitress at a restaurant calculated her daily pay, p, using the equation $p = 0.15f + 17.60$, where f is the total amount of food purchased by customers. If the waitress sold between $600.00 and $720.00 in food, then the amount of her daily pay should be between–

   A. $40.00 and $48.00
   B. $57.00 and $65.00
   C. $90.00 and $108.00
   D. $107.60 and $125.60

8. A florist plans to sell bouquets for $25 each. He wants to use only roses and carnations in each bouquet and needs to charge the following amount for each type of flower.

$1.50 per rose

$1.25 per carnation

Which of these combinations of roses and carnations will result in bouquets that the florist can sell for exactly $25 each?

    I. 18 roses and 2 carnations

    II. 6 roses and 10 carnations

    III. 10 roses and 8 carnations

    IV. 5 roses and 14 carnations

A. I and II only
B. II and III only
C. III and IV only
D. I and IV only

9. At a college bookstore, Carla purchased a math textbook and a novel that cost a total of $54, not including tax. If the price of the math textbook, m, is $8 more than 3 times the price of the novel, n, which system could be used to determine the price of each book?

F. $m + n = 8$
   $m = 3n + 54$
G. $m + n = 8$
   $m = 3n - 54$
H. $m + n = 54$
   $m = 3n + 8$
J. $m + n = 54$
   $m = 3n - 8$

10. The perimeter of a rectangular wooden deck is 90 feet. The deck's length, l, is 5 feet less than 4 times its width, w. Which system of linear equations can be used to determine the dimensions, in feet, of the wooden deck?

F. $2l + 2w = 90$
   $l = 5 - 4w$
G. $2l + 2w = 90$
   $l = 5w - 4$
H. $2l + 2w = 90$
   $l = 4 - 5w$
J. $2l + 2w = 90$
   $l = 4w - 5$

11. Nancy plans to take her cousins to an amusement park. She has a total of $100 to pay for 2 different charges.

• $5 admission per person
• $3 per ticket for rides

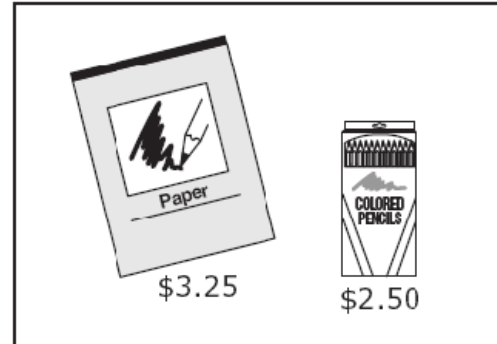Which inequality could Nancy use to determine y, the number of tickets for rides she can buy if she pays the admission for herself and x cousins?

F. $5y + 3(x + 1) \geq 100$
G. $5(x + 1) + 3y > 100$
H. $5y + 3(x + 1) < 100$
J. $5(x + 1) + 3y \leq 100$

12. Andy has only $20 to spend on art supplies.

• Paper costs $3.25 per package.
• Colored pencils cost $2.50 per package.

Art Supplies

$3.25 $2.50

Which is a reasonable combination of packages of paper and colored pencils that Andy can buy with only $20?

A. 3 packages of paper and 4 packages of colored pencils
B. 1 package of paper and 7 packages of colored pencils
C. 5 packages of paper and 2 packages of colored pencils

13. Some values for two linear equations are shown in the tables below.

Equation 1

x	y
−4	−7
−1	−1
2	5
5	11

Equation 2

x	y
−3	−13
0	−4
1	−1
5	11

What is the solution to the system of equations represented by these tables?

A. (3, 5)
B. (−1, 1)
C. (5, 11)

14. Marcos had 15 coins in nickels and quarters. He had 3 more quarters than nickels. He wrote a system of equations to represent this situation, letting x represent the number of nickels and y represent the number of quarters. Then he solved the system by graphing. What is the solution?

F. (6, 9)
G. (5, 10)
H. (9, 6)
J. (10, 5)

15. Which is the solution to this pair of linear equations?

$$5y - 2x = 6$$
$$3x - 2y = 13$$

A. (3, -2)
B. (5, -2)
C. (7, 4)
D. (8, -4)

16. A rectangle has a perimeter of 140 units. Its length is 10 units more than its width. If l represents the length and w represents the width, then this situation can be represented by this system of equations.

$$2l + 2w = 140$$

$$l = w + 10$$

What is the width of this rectangle?

F. 65 units
G. 30 units
H. 70 units

17. Kelly will enclose her rectangular tomato garden with 32 feet of fencing material. She wants the length of the garden to be at least three times the width. What is the minimum length that will meet Kelly's conditions?

F. 24 ft
G. 12 ft
H. 8 ft
J. 4 ft

18. A rectangle has a perimeter of 140 units. Its length is 10 units more than its width. If l represents the length and w represents the width, then this situation can be represented by this system of equations.

$$2l + 2w = 140$$

$$l = w + 10$$

What is the width of this rectangle?

F. 65 units
G. 30 units
H. 70 units