

Systems Calc Active HW

Name: _____

Date: _____

1. What is the value of x in the solution of the system of equations below?

$$\begin{aligned} 3x - 2y &= 6 \\ x + 2y &= 10 \end{aligned}$$

- A. 2 B. 4 C. 10 D. 16

2. The computer lab offers classes after school. In addition to an hourly rate, h , a registration fee, f , is charged. The equations below model the cost for a 2-hour and a 3-hour class.

$$\begin{aligned} 2h + f &= 65 \\ 3h + f &= 90 \end{aligned}$$

What amount is charged for the registration fee?

- A. \$15 B. \$25 C. \$30 D. \$40

3. Given:

$$\begin{aligned} 6x - 3y &= 42 \\ 4x + 2y &= -4 \end{aligned}$$

What is $x + y$?

- A. -6 B. -5 C. 4 D. 9

4. If 4 notebooks and 3 packages of pens cost \$7.43 and 5 notebooks and 2 packages of pens cost \$7.03, what is the cost of 1 notebook?

- A. \$0.89 B. \$0.79 C. \$1.29 D. \$1.09

5. Last year, Kristen read a total of 30 fiction and non-fiction books. The number of non-fiction books was 5 less than 4 times the number of fiction books.

What is the total number of *fiction* books that Kristen read last year?

- A. 5 B. 7 C. 23 D. 25

6. Serena bought some small and large picture frames.

- She paid \$3 for each small picture frame.
- She paid \$5 for each large picture frame.
- She bought a total of 10 picture frames.
- She paid a total of \$36 for all the picture frames. There is no sales tax.

What is the number of *large* picture frames that Serena bought?

7. In a restaurant, two groups placed the orders shown in the table below.

ORDERS TAKEN			
	Number of Small Lunch Plates	Number of Large Lunch Plates	Total Price
Group A Order	4	1	\$22.50
Group B Order	2	3	\$27.50

Based on this information, what is the price, in dollars, of a large lunch plate?

8. The Sanchez family is planning a trip to an amusement park. The park has two ticket plans.

Plan A offers a weekend pass for \$12 plus \$0.50 per ride.

Plan B is \$1.25 for each ride.

Let x represent the number of rides each person will ride and y represent the cost per person, in dollars. Which of these systems of equations could be used to choose a ticket plan?

- A. $y = 0.50x + 12$ B. $y = 12x + 0.50$
 $y = 1.25x$ $y = x + 1.25$
- C. $y = 0.50x$ D. $y = x + 12$
 $y = 1.25x$ $y = x + 1.25$

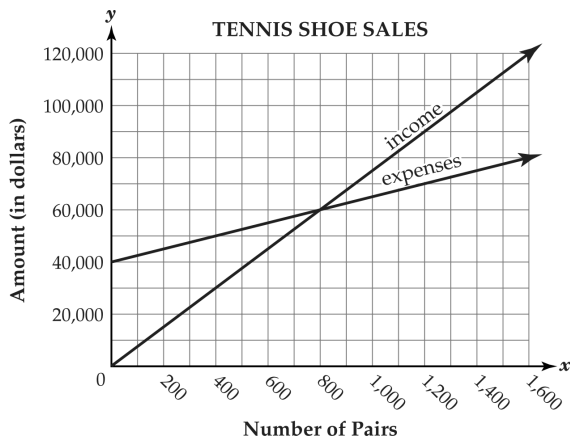
9. Kareem is going to Florida. The cost for two different vacation packages is shown below.

FLORIDA VACATION PACKAGES

Package	A	B
Roundtrip Airfare Cost	\$150	\$210
Hotel Cost (per night)	\$55	\$40

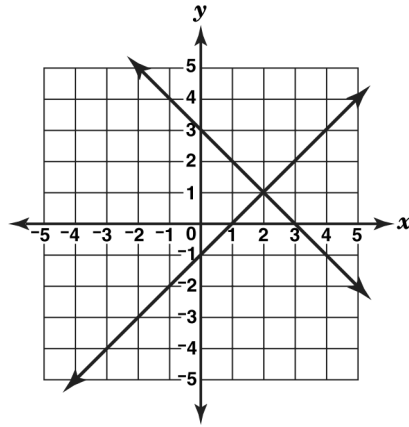
How many nights would Kareem need to stay in a hotel to pay the same amount for either vacation package?

10. The graph below compares the income and expenses involved in the production and sales of tennis shoes at a shoe factory.



How many pairs of tennis shoes must be sold for income and expenses to be equal?

- 11.



Which of these statements describes the relationship between the two lines?

- A. They intersect at the point (2, 1).
 B. They intersect at the point (1, 2).
 C. They intersect at the point (1, 0).
 D. They intersect at the point (0, 3).
12. Mary is considering two job offers. Job A pays \$8.00 an hour and offers a one-time \$100 bonus. Job B pays \$8.50 an hour and offers a one-time \$80 bonus. How many hours would Mary have to work to earn the same amount of money at Job B as at Job A?
- A. 40 B. 41 C. 420 D. 428
13. William charges \$4 per hour to babysit. LaRhonda charges \$10, plus an additional \$2 per hour to babysit. Both William and LaRhonda work the same number of hours. After how many hours will they earn the same amount of money?
- A. 2 hours B. 2.5 hours
 C. 4.5 hours D. 5 hours

14. Chris recently accepted a job as an auto salesman for Magnolia Autos. His employer allowed him to choose one of these wage plans in order to determine w , his total weekly salary:

Plan 1: \$500 per week plus 5% of s , his total sales for the week

Plan 2: \$400 per week plus 6% of s , his total sales for the week

Which pair of equations could be solved to determine the value of s total sales for which w total wages would be the same for both plans?

- A. $w = 500 - 5s$ B. $w = 500 + 5s$
 $w = 400 - 6s$ $w = 400 + 6s$
- C. $w = 500 + 0.05s$ D. $w = 500 - 0.05s$
 $w = 400 + 0.06s$ $w = 400 - 0.06s$

15. Use the space below to complete the following question(s).

A car rental company has 2 rental plans. Plan A charges \$49.00 per day. Plan B charges \$25.00 per day, plus \$0.10 per mile. How many miles must Teri drive in one day for Plan A to cost the same as Plan B?

16. At the Burger Palace, 2 hamburgers and 1 small order of fries cost \$6.09. The Clarkes ordered 5 hamburgers and 5 small orders of fries and paid \$17.95. What was the cost of 1 small order of fries?

- A. \$2.50 B. \$1.49 C. \$1.09 D. \$0.95

17. Mr. Johnson purchased 20 concert tickets for a total of \$225. The concert tickets cost \$15 for adults and \$10 for children under 12.

How many tickets for children under 12 did Mr. Johnson purchase?

- A. 5 B. 9 C. 15 D. 18

18. A total of 120 adults and students attended a school volleyball game. Each adult paid \$2.50, and each student paid \$1.00. The total paid by the adults and students attending the game was \$189.

Which of the following systems of equations can be used to find a , the number of adults attending, and s , the number of students attending the game?

A.
$$\begin{cases} a + s = 120 \\ 2.5a + 2.5s = 189 \end{cases}$$

B.
$$\begin{cases} 2.5a + s = 120 \\ a + s = 189 \end{cases}$$

C.
$$\begin{cases} 2.5a + s = 120 \\ 3.5a + 3.5s = 189 \end{cases}$$

D.
$$\begin{cases} a + s = 120 \\ 2.5a + s = 189 \end{cases}$$

19. A park ranger spent \$208 to buy 12 trees. Redwood trees cost \$24 each and spruce trees cost \$16 each. How many of each tree did the park ranger buy?

- A. 10 redwoods and 2 spruce
 B. 9 redwoods and 3 spruce
 C. 3 redwoods and 9 spruce
 D. 2 redwoods and 10 spruce

1.
Answer: B
2.
Answer: A
3.
Answer: B
4.
Answer: A
5.
Answer: B
6.
Answer: 3
7.
Answer: \$6.50
8.
Answer: A
9.
Answer: 4
10.
Answer: 800
11.
Answer: A
12.
Answer: A
13.
Answer: D
14.
Answer: C
15.
Answer: 240
16.
Answer: C
17.
Answer: C
18.
Answer: D
19.
Answer: D