Use Scantron 882E to transfer the answers.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Decide whether the ordered pair is a solution of the given system.

1) 
$$x + y = -6$$
  
  $x - y = -2$ ;  $(-4, -2)$ 

A) No

B) Yes

2) x + y = -5

x - y = 3; (1, -4)

A) No

B) Yes

3) 2x + y = 8

3x + 2y = 15; (1, 6)

A) Yes

B) No

4) 2x + y = -4

4x + 2y = -8; (-4, -4)

A) Yes

B) No

Solve the system by graphing.

5) 5x + y = 16

5) \_\_\_\_\_

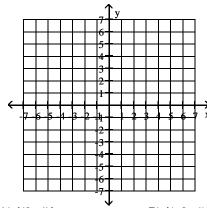
1) \_\_\_\_\_

2) \_\_\_

3) \_\_

4)





A)  $\{(2, 6)\}$ 

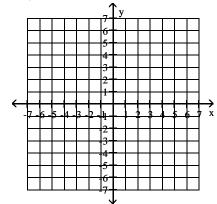
B)  $\{(-2, 6)\}$ 

C)  $\{(4, -4)\}$ 

D) {(2, 1)}

6) 
$$4x + 3y = 23$$
  
 $-2x + 3y = 11$ 



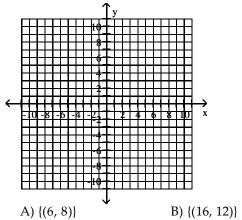


- A) {(5, 2)}
- C) {(2, 5)}

D) Ø; inconsistent system

7) 
$$x - y = 2$$
  
 $x + y = 14$ 





- C) {(8, 6)}
- D) {(12, 16)}

8) y = 9 - 2x

$$x + 5y = 0$$

- A) {(4, 1)} B) {(5, 4)}
- C) {(5, -1)}
- D) {(-5, -1)}

9) 
$$x = y - 4$$
  
 $6x = 4y$ 



10)

11) \_\_\_\_\_

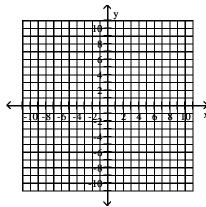
12) \_\_\_\_\_

13)

14)

15) \_\_\_\_\_

16)



- A) {(12, 8)}
- B) {(8, 12)}
- C)  $\{(0,0)\}$
- D) {(-8, 4)}

Solve the system by substitution. If the system is inconsistent or has dependent equations, say so.

10) 
$$x + y = -3$$

$$y = 5x + 3$$
  
A) {(-2, -1)}

B) 
$$\{(-2, -3)\}$$

D) 
$$\{(0,3)\}$$

11) 
$$8y - 8 = -x$$
  
 $7x - 4y = -4$ 

12) 
$$5x - 2y = -1$$

$$x + 4y = 35$$

A) 
$$\{(3, 8)\}$$

C) 
$$\{(2, 8)\}$$

13) 
$$5x + 3y = 80$$

$$2x + y = 30$$

$$14)\frac{3}{2}x - \frac{1}{3}y = -18$$

$$\frac{3}{4}x + \frac{2}{9}y = -9$$

15) 
$$x + y = 9$$

$$x + y = 5$$

C) 
$$\{(9, 5)\}$$

D) 
$$\{(x, y) | x + y = 5\}$$
; dependent equations

16) 
$$x + y = 2$$

$$2x + 2y = 4$$

A) 
$$\{(0,0)\}$$

B) 
$$\{(5, -3)\}$$

D) 
$$\{(x, y) | x + y = 2\}$$
; dependent equations

Solve the system by elimination. If the system is inconsistent or has dependent equations, say so.

17) 
$$-x - 8y = -7$$

$$2x + 8y = 6$$

A) 
$$\{(0,0)\}$$

C) 
$$\{(-1, -1)\}$$

18) x + 4y = 13

$$2x + 3y = 6$$

A) 
$$\{(-4, 5)\}$$

C) 
$$\{(3,5)\}$$

D) Ø; inconsistent system

19) x - 4y = -4-4x - 3y = -3

A) 
$$\{(-1, 0)\}$$

B) {(1, 0)}

D) Ø; inconsistent system

20) x + 6y = 8

$$8x + 7y = 64$$

B) {(8, 0)}

D) Ø; inconsistent system

21) -7x + 7y = 14

$$4x + 5y = 28$$

A) 
$$\{(1, 5)\}$$

C) 
$$\{(2,5)\}$$

B)  $\{(2, 4)\}$ 

D) Ø; inconsistent system

22) 5x - 2y = 3

$$-20x + 8y = -12$$

A) {(1, 1)}

C)  $\{(x, y) \mid 5x - 2y = 3\}$ ; dependent equations

B)  $\{(-3, -9)\}$ 

D) Ø; inconsistent system

23) 2x - 3y = -2

$$6x - 9y = 6$$

A) 
$$\{(5, -4)\}$$

B) 
$$\{(-1, 0)\}$$

C)  $\{(x, y) \mid 2x - 3y = -2\}$ ; dependent equations

D) Ø; inconsistent system

 $24)\,\frac{1}{5}x-\frac{1}{4}\,y=3$ 

$$\frac{2}{5}x + \frac{1}{2}y = 2$$

A) {(10, -4)} C) {(-10, -6)}

B)  $\{(-10, -4)\}$ D)  $\emptyset$ ; inconsistent system

Tell how many solutions the system has. Do not actually solve.

25) 3x - 4y = -1

$$6x - 8y = -2$$

A) No solution

B) One solution

C) Infinitely many

25) \_\_\_\_\_

17) \_\_\_\_\_

18)

19) \_\_\_\_\_

20) \_\_\_\_\_

21) \_\_\_\_\_

22) \_\_\_\_\_

23) \_\_\_\_\_

24) \_\_\_\_\_

26) 
$$2x - 4y = 2$$

$$y = \frac{1}{2}x - \frac{1}{2}$$

26) \_\_\_\_\_

27) \_

28)

29)

30) \_\_\_

- A) Infinitely many
- B) No solution
- C) One solution

27) 
$$3x - y = 8$$

$$x + 3y = 16$$

A) No solution

- B) Infinitely many
- C) One solution

28) 
$$x - 7 = y$$

$$y + 2 = x$$

- A) One solution
- B) No solution
- C) Infinitely many

29) 
$$x - 2y = 5$$

$$2x - 4y = 18$$

- A) One solution
- B) Infinitely many
- C) No solution

30) 
$$x - 3y = 6$$

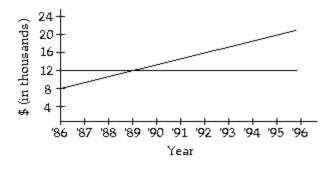
$$3y + 1 = x$$

- A) One solution
- B) No solution

C) Infinitely many

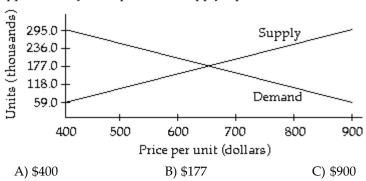
## Solve the problem.

31) Betsy doesn't trust banks, so her savings are hidden under her mattress. Alla has her savings in an investment at simple interest. During which years would Betsy's savings be more than Alla's?



- A) 1989 1996
- B) 1986 1988
- C) 1986 1989
- D) 1989
- 32) The graphs below represent the supply and demand for a product at various prices per unit. At approximately what price does supply equal demand?





33) A company manufactures three products. The graph shows the production from 1986 to 1996. What was the approximate level of production when the production of B equaled the production of C?



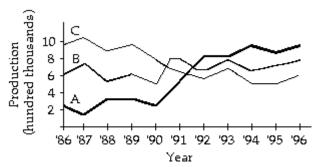
35) \_\_\_\_\_

36) \_\_\_\_

37)

38)

39) \_\_\_\_\_



- A) 800,000
- B) 500,000
- C) 700,000
- D) 400,000

Solve the system of equations.

$$34) \frac{8}{x} - \frac{2}{y} = -4$$

$$\frac{4}{x} + \frac{1}{y} = 4$$

- A)  $\left\{ \left[ \frac{1}{4}, 3 \right] \right\}$
- B)  $\left\{4, \frac{1}{3}\right\}$
- C) Ø

D)  $\left\{ \left( \frac{1}{3}, 4 \right) \right\}$ 

$$35) \frac{3}{y} + \frac{6}{x} = \frac{9}{4}$$

 $\frac{6}{y} - \frac{4}{x} = \frac{5}{2}$ 

A) 
$$\left\{ \left[ \frac{1}{8}, \frac{1}{2} \right] \right\}$$

- B) {(8, 2})
- C) Ø

D) {(-8, 2})

36) 
$$x + y + z = 7$$
  
 $x - y + 2z = 7$ 

5x + y + z = 11

- B) {(1, 4, 2)}
- C) {(4, 1, 2)}
- D) {(1, 2, 4)}

37) 
$$x - y + z = 8$$

x + y + z = 6

$$x + y - z = -12$$

A)  $\{(-2, -1, -9)\}$ 

B) 
$$\{(2, -1, -9)\}$$

C)  $\{(2, -1, 9)\}$ 

D)  $\{(-2, -1, 9)\}$ 

38) 
$$5x + 2y + z = -11$$

2x - 3y - z = 17

$$7x + y + 2z = -4$$

A)  $\{(-3, 0, 4)\}$ 

B) 
$$\{(3, 0, -4)\}$$

C) {(0, -6, 1)}

D) {(0, 6, -1)}

Solve the problem.

39) The perimeter of a rectangle is 30 cm. The length is 7 cm longer than the width. What are the length and width of the rectangle?

A) Length: 13 cm; width: 6 cm

B) Length: 15 cm; width: 8 cm

C) Length: 11 cm; width: 4 cm

D) Length: 7 cm; width: 4 cm

40)	The perimeter of a rectang	le 1s 56 m. It the width	i were doubled and the lengt	h were increased by	40)
	25 m, the perimeter would	be 128 m. What are th	ne length and width of the re	ctangle?	
	A) Length: 17 m; width:		B) Length: 14 m; width	0	
	C) Length: 11 m; width:		D) Length: 14 m; width		
41)	T11	1 01 74	1 1 1 1 40 00	1, ( 20	41)
41)	Ellen wishes to mix candy worth \$1.64 per pound with candy worth \$3.36 per pound to form 30				41)
	pounds of a mixture worth \$2.33 per pound. How many pounds of the more expensive candy				
	should she use?	D) 10 1.	C) 17 1.	D) 10 1.	
	A) 20 pounds	B) 12 pounds	C) 17 pounds	D) 18 pounds	
42)	A contractor mixes concrete from bags of pre-mix for small jobs. How many bags with 7% c				42)
	should he mix with 4 bags	of 17% cement to pro	duce a mix containing 11% co	ement?	
	A) 15 bags	B) 6 bags	C) 8 bags	D) 10 bags	
12)	Anno and Nangy uso a mod	tal allow that is 20% or	onnor to make jourelry. Hour	many ounces of a 14%	43)
43)	Anne and Nancy use a metal alloy that is 20% copper to make jewelry. How many ounces of a 14% alloy must be mixed with a 23% alloy to form 69 ounces of the desired alloy?				43)
	A) 46 ounces	B) 51 ounces	C) 25 ounces	D) 23 ounces	
	4				
44)	) How many liters (L) of a 10% alcohol solution must be mixed with 50 L of a 90% solution to get a 50% solution?				44)
	A) 50 L	B) 5 L	C) 10 L	D) 100 L	
	,	, -	-, -	,	
45)	How many liters (L) of a 10	of a 4% silver iodide	45)		
	solution to get a 6% solution	on?			
	A) 3.5 L	B) 9.0 L	C) 4.5 L	D) 5.5 L	
46)	Two angles are supplementary, and one is 40° more than three times the other. Find the smaller				46)
10)	angle.	itary, and one is 40° in	iore man tince times the othe	1. That the smaller	40)
	A) 35°	B) 145°	C) 105°	D) 75°	
47)	7) In a right triangle, one acute angle is 54° more than twice the other. Find each acute angle.				47)
	A) 21° and 69°	B) 12° and 78°	C) 28° and 62°	D) 37° and 53°	
48)	) How many liters (L) of a 10% silver iodide solution must be mixed with 7 L of a 4% silver iodide				48)
,	solution to get a 6% solution?				
	A) 4.5 L	B) 2.5 L	C) 7.0 L	D) 3.5 L	
40)	A manufact bas soften vyon	the \$20 a recovered theat of	ha wishaa ta miy with 20 may	nda af gaffaa xwamba (	49)
49)	9) A merchant has coffee worth \$30 a pound that she wishes to mix with 30 pounds of coffee w 80 a pound to get a mixture that is worth \$60 a pound. How many pounds (lb) of the \$30 co				49)
	should be used?				
	A) 10 lb	B) 20 lb	C) 50 lb	D) 25 lb	
	•	•	•	•	
50) A merchant has coffee worth \$60 a pound that she wishes to mix with 80 pounds of					50)
	90 a pound to get a mixture that is worth \$80 a pound. How many pounds (lb) of the \$60 coffee				
	should be used?	D) (0.11	C) 100 II.	D) 20 11	
	A) 40 lb	B) 60 lb	C) 120 lb	D) 20 lb	