

FOMP 10 Chapter 8 Review Pack v1

Answer Section

MULTIPLE CHOICE

- ANS: B PTS: 1 DIF: 1-2 OBJ: Section 8.1
 NAT: RF9 TOP: Systems of Linear Equations and Graphs
 KEY: ordered pair | identify the linear system
- ANS: B PTS: 1 DIF: 1-2 OBJ: Section 8.1
 NAT: RF9 TOP: Systems of Linear Equations and Graphs
 KEY: ordered pair | identify the linear system

SHORT ANSWER

- ANS:
 $(0, 0)$

 PTS: 1 DIF: 1-2 OBJ: Section 8.1 NAT: RF9
 TOP: Systems of Linear Equations and Graphs
 KEY: identify the ordered pair | linear system
- ANS:
 $(-4, -3)$

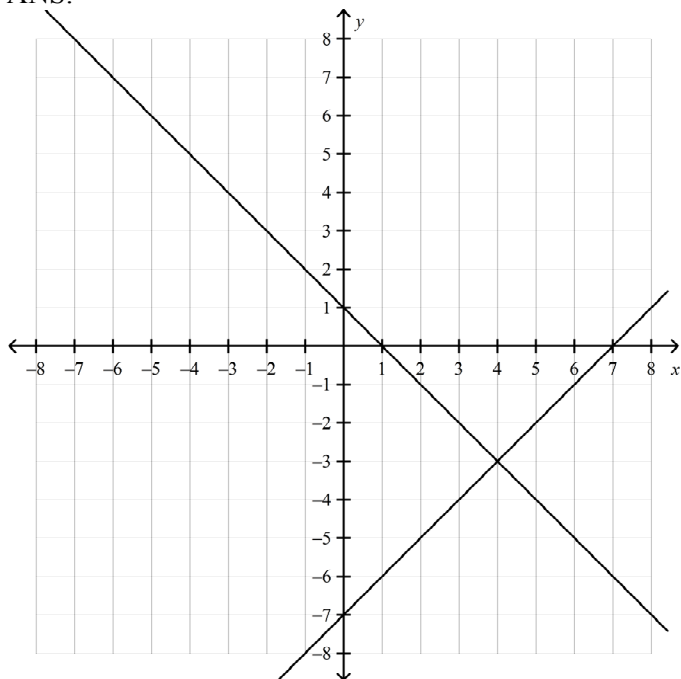
 PTS: 1 DIF: 1-2 OBJ: Section 8.1 NAT: RF9
 TOP: Systems of Linear Equations and Graphs
 KEY: linear system | identify the ordered pair
- ANS:
 1

 PTS: 1 DIF: 1-2 OBJ: Section 8.3 NAT: RF9
 TOP: Number of Solutions for Systems of Linear Equations
 KEY: number of solutions | linear system | one solution
- ANS:
 $(4, 3)$

 PTS: 1 DIF: 1-2 OBJ: Section 8.1 NAT: RF9
 TOP: Systems of Linear Equations and Graphs
 KEY: identify the ordered pair | linear system | graph
- ANS:
 $(2, -5)$

 PTS: 1 DIF: 3-4 OBJ: Section 8.1 NAT: RF9
 TOP: Systems of Linear Equations and Graphs
 KEY: identify the ordered pair | linear system

6. ANS:



Point of intersection: (4, -3)

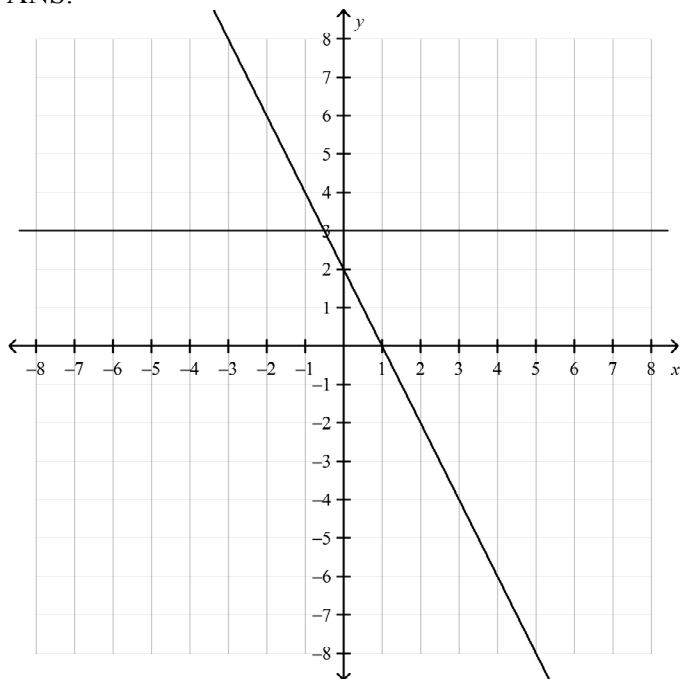
PTS: 1 DIF: 3-4 OBJ: Section 8.1 NAT: RF9
 TOP: Systems of Linear Equations and Graphs
 KEY: linear system | graph | identify the ordered pair

7. ANS:

$$2x + 3 = 4x - 4$$

PTS: 1 DIF: 3-4 OBJ: Section 8.2 NAT: RF9
 TOP: Modelling and Solving Linear Systems KEY: words to equation | model

8. ANS:

Solution: $\left(\frac{-1}{2}, 3\right)$

PTS: 1 DIF: 3-4 OBJ: Section 8.1 NAT: RF9

TOP: Systems of Linear Equations and Graphs

KEY: linear system | graph | identify the ordered pair

9. ANS:

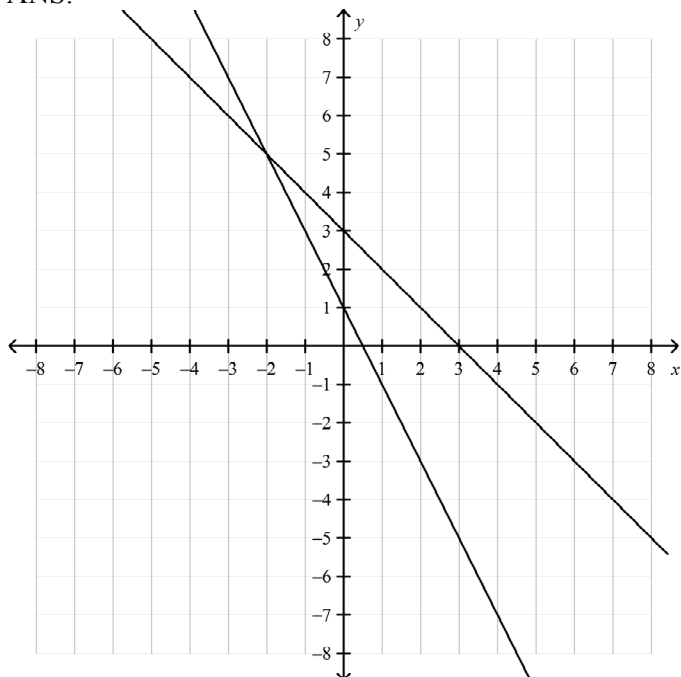
$$5x - 5 = \frac{6x}{5}$$

PTS: 1 DIF: 3-4 OBJ: Section 8.2 NAT: RF9

TOP: Modelling and Solving Linear Systems

KEY: words to equation | model

10. ANS:

Point of intersection: $(-2, 5)$

PTS: 1 DIF: 3-4 OBJ: Section 8.1 NAT: RF9

TOP: Systems of Linear Equations and Graphs

KEY: linear system | graph | identify the ordered pair

11. ANS:

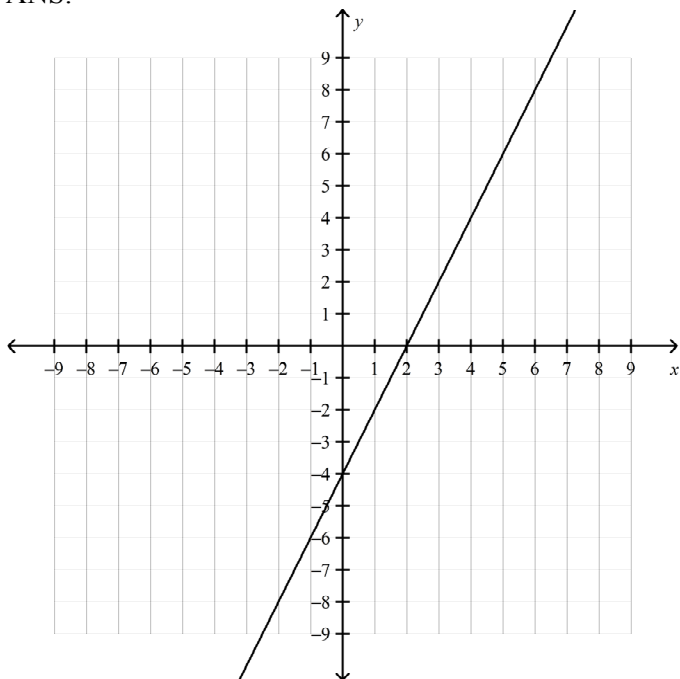
NV Fitness: $y = 8x + 15$ CG Workout Zone: $y = 5x + 25$

PTS: 1 DIF: 3-4 OBJ: Section 8.2 NAT: RF9

TOP: Modelling and Solving Linear Systems

KEY: words to equation | linear system

12. ANS:



Because both equations have the same graph, there are an infinite number of solutions.

PTS: 1 DIF: 3-4 OBJ: Section 8.3 NAT: RF9
 TOP: Number of Solutions for Systems of Linear Equations
 KEY: linear system | infinite number | graph | number of solutions

13. ANS:

1

PTS: 1 DIF: 3-4 OBJ: Section 8.3 NAT: RF9
 TOP: Number of Solutions for Systems of Linear Equations
 KEY: number of solutions | linear system | one solution

14. ANS:

a) $5x - 5$

b) $\frac{1}{3}x + 2$

c) $(x - 1)y$

d) $x + \frac{4}{7}$

PTS: 1 DIF: 3-4 OBJ: Section 8.2 NAT: RF9
 TOP: Modelling and Solving Linear Systems KEY: words to expression | model

15. ANS:

a) $\frac{1}{5}x - 14 = 33$

b) $6 - 4x = 2 + 6x$

c) $7t = 959$

d) $l + w = 225$

PTS: 1

DIF: 3-4

OBJ: Section 8.2

NAT: RF9

TOP: Modelling and Solving Linear Systems

KEY: words to equation | model

16. ANS:

15

If $a = 6$, the lines are parallel.

PTS: 1

DIF: 5-6

OBJ: Section 8.3

NAT: RF9

TOP: Number of Solutions for Systems of Linear Equations

KEY: determine the coefficient | linear system | no solution

17. ANS:

5

For $B = 5$, the lines are coincident.

PTS: 1

DIF: 5-6

OBJ: Section 8.3

NAT: RF9

TOP: Number of Solutions for Systems of Linear Equations

KEY: determine the coefficient | linear system | infinite number

18. ANS:

A parallel line is needed, so the other equation must be $y = -\frac{1}{4}x + b$ where b can be any value except 5.

PTS: 1

DIF: 5-6

OBJ: Section 8.3

NAT: RF9

TOP: Number of Solutions for Systems of Linear Equations

KEY: linear system | no solution | parallel lines | identify the equation

19. ANS:

An equivalent equation of the same line is needed. Example: $y = -6x - 15$

PTS: 1

DIF: 5-6

OBJ: Section 8.3

NAT: RF9

TOP: Number of Solutions for Systems of Linear Equations

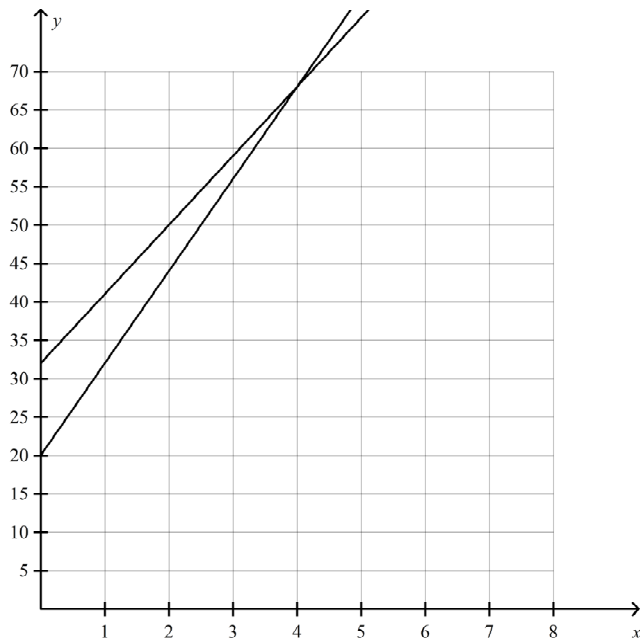
KEY: linear system | infinite number | identify the equation | number of solutions

20. ANS:

a) $C = 12n + 20$

b) $C = 9n + 32$

c)



d) The point of intersection (4, 68) represents the point where the clown from each company is present for the same number of hours (4 h), and where the total cost is the same from each company (\$68).

e) If the clown is needed for fewer than 4 h, then the cost is less from Party Planners. However, if the clown is needed for more than 4 h, then Fun Times Inc. would cost less.

PTS: 1 DIF: 5-6 OBJ: Section 8.2 NAT: RF9

TOP: Modelling and Solving Linear Systems

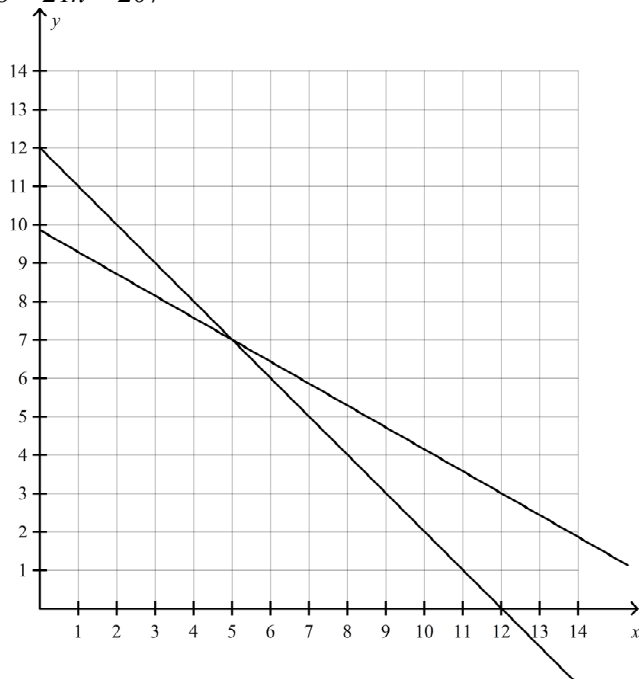
KEY: identify the linear system | graph | identify the ordered pair | interpret solution

21. ANS:

Let p represent the number of paperback books, and let h represent the number of hardcover books.

$$p + h = 12$$

$$12p + 21h = 207$$



The point of intersection is $(5, 7)$, so Lee should buy 5 paperbacks and 7 hardcover books.

PTS: 1

DIF: 5-6

OBJ: Section 8.2

NAT: RF9

TOP: Modelling and Solving Linear Systems

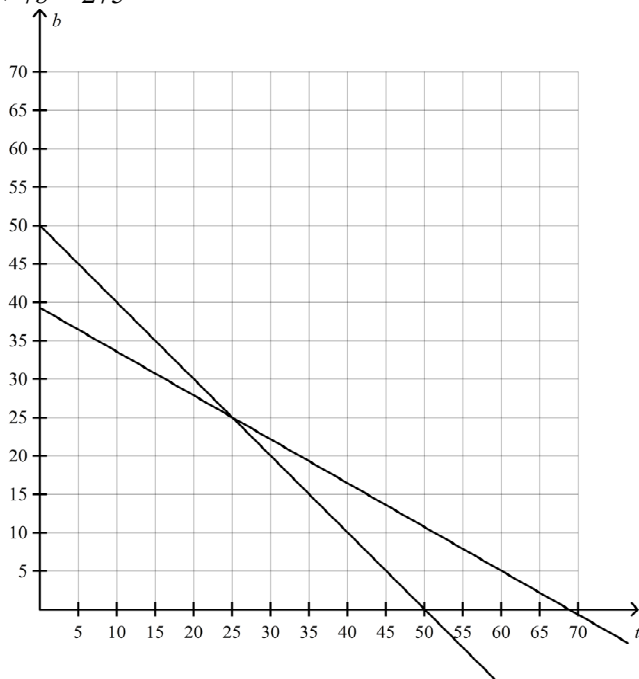
KEY: identify the linear system | graph | identify the ordered pair

22. ANS:

a) Let t represent the number of T-shirts sold, and let b represent the number of baseball caps sold.

$$t + b = 50$$

$$4t + 7b = 275$$



The point of intersection is $(25, 25)$, so the chess club should sell 25 T-shirts and 25 baseball caps.

b) $4t + 7b = 425$

Substitute $b = 35$ into the equation and solve for t :

$$4t + 7(35) = 425$$

The chess club must sell 45 T-shirts to fund the tournament.

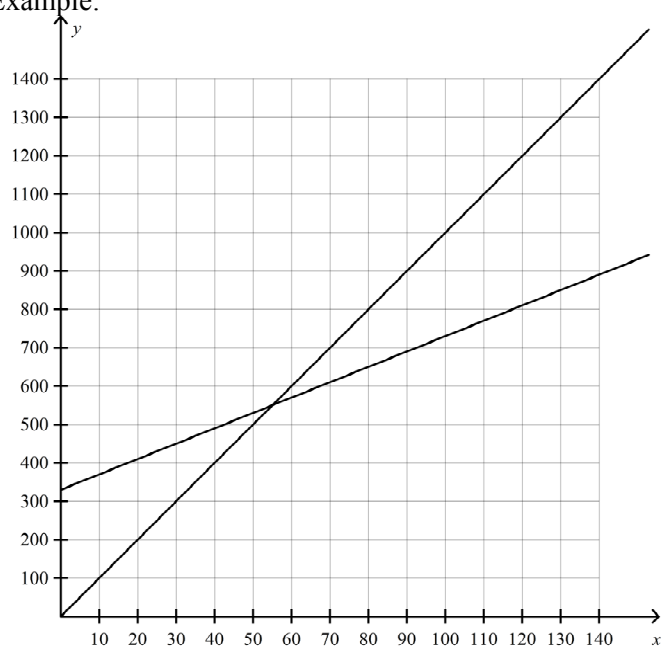
PTS: 1 DIF: 5-6 OBJ: Section 8.2 NAT: RF9

TOP: Modelling and Solving Linear Systems

KEY: identify the linear system | graph | identify the ordered pair

23. ANS:

Example:



The point of intersection is (55, 550), so the students must sell 55 T-shirts to break even.

PTS: 1 DIF: 5-6 OBJ: Section 8.2 NAT: RF9

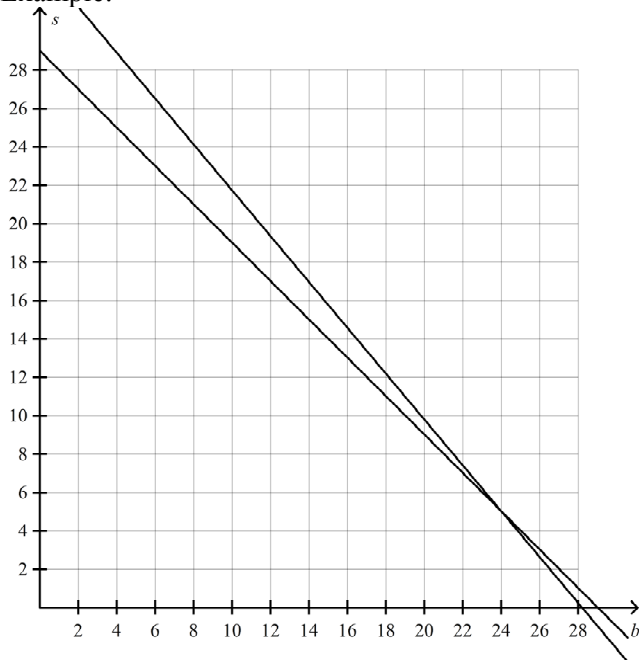
TOP: Modelling and Solving Linear Systems

KEY: identify the linear system | graph | identify the ordered pair

24. ANS:

a) Let s represent the number of members who rented skis, and let b represent the number of members who rented snowboards. The two equations are $29 = s + b$ and $1381 = 41s + 49b$.

b) Example:



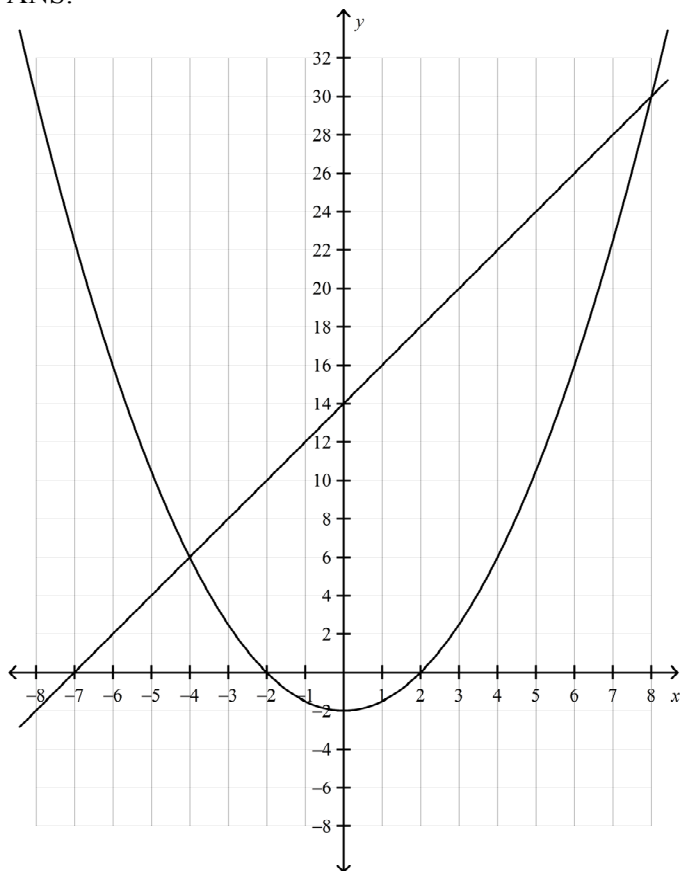
The graphs intersect at $(24, 5)$, so 24 of the members rented snowboards and 5 rented skis.

PTS: 1 DIF: 5-6 OBJ: Section 8.2 NAT: RF9

TOP: Modelling and Solving Linear Systems

KEY: identify the linear system | graph | identify the ordered pair

25. ANS:

Solutions: $(-4, 6)$ and $(8, 30)$

PTS: 1 DIF: 7-8 OBJ: Section 8.1 NAT: RF9

TOP: Systems of Linear Equations and Graphs

KEY: quadratic-linear system | graph | identify the ordered pair

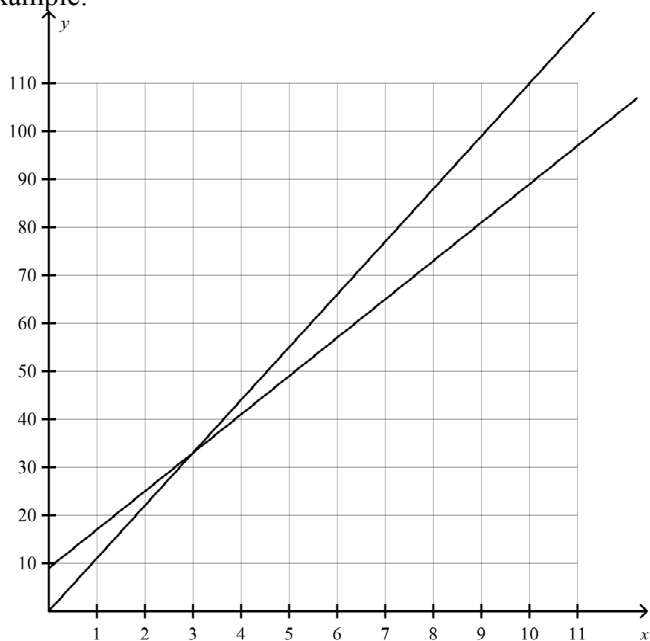
26. ANS:

a) Let t represent the amount of time they spend working, and let d represent the amount of money they earn.

Rondell: $d = 8t + 9$

Janet: $d = 11t$

Example:



Both Rondell and Janet worked for 3 h and earned \$33.

b) Substitute $t = 3$ into the equation $d = 13t$:

Erica earns \$39.

Because Janet earns \$33, Erica earns \$6 more than Janet does.

PTS: 1

DIF: 7-8

OBJ: Section 8.2

NAT: RF9

TOP: Modelling and Solving Linear Systems

KEY: identify the linear system | identify the ordered pair | graph