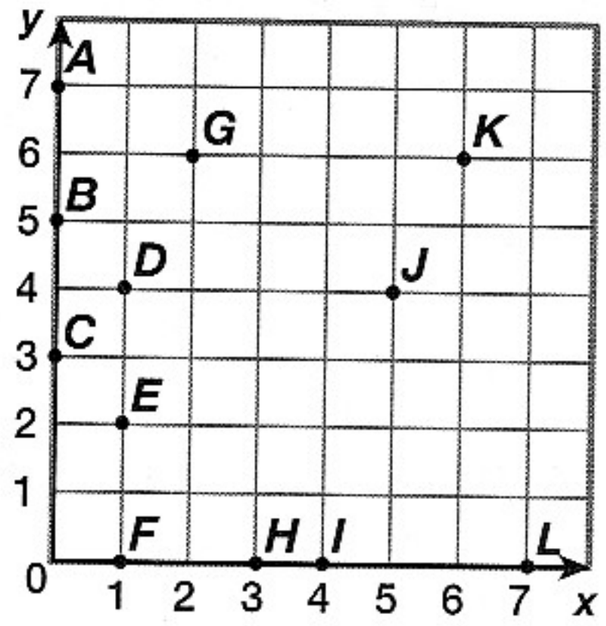
Name _____ Date _____

Locate Points on a Grid Using Whole Numbers

Use the graph to the right for Exercises 1–15.



Example

Which coordinates of *D* and *E* are the same? Which are different?

_____

_____

1. Does there exist any point whose coordinates are equal? How many such points exist?

_____

Write the ordered pair for each point.

2. D _____ **3.** G _____ **4.** A _____

5. K _____ **6.** I _____ **7.** F _____

Write the letter of the point for each ordered pair.

8. (3, 0) _____ **9.** (0, 5) _____ **10.** (1, 2) _____

11. (5, 4) _____ **12.** (0, 3) _____ **13.** (7, 0) _____

Problem Solving • Reasoning

14. Write the letter of all points with *x* coordinate equal to 1.

_____

15. Write the ordered pair of all points with *y* coordinate equal to 0.

_____

Name _____ Date _____

Graph Ordered Pairs

Plot each point on the graph to the right.
Label the point with the letter.

1. *R* (5, 6)

2. *G* (6, 8)

3. *T* (6, 1)

4. *E* (2, 8)

5. *F* (4, 8)

6. *S* (5, 4)

7. *H* (8, 8)

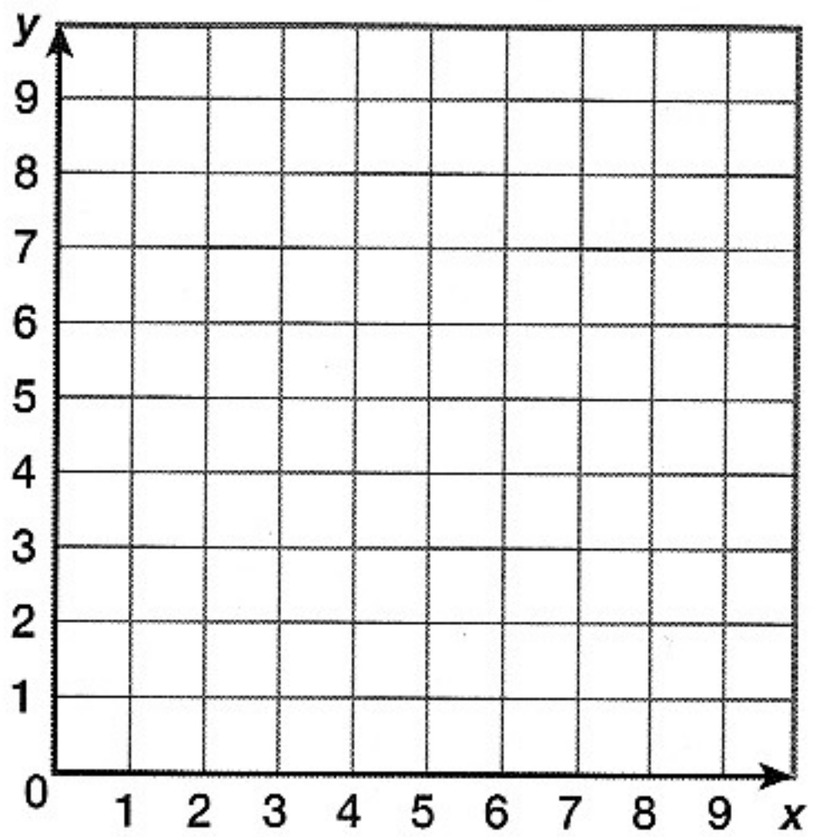
8. *C* (1, 2)

9. *V* (4, 5)

10. *I* (7, 3)

11. *J* (8, 2)

12. *D* (9, 5)



Problem Solving • Reasoning

Plot each point on the graph to the right.
Label the point with the letters.

13. Plot the points *A* (1, 6) and *B* (2, 2). Connect the points to form a line.

14. Plot the points *X* (3, 3), *Y* (3, 1) and *Z* (6, 3). Connect the points to form a triangle.

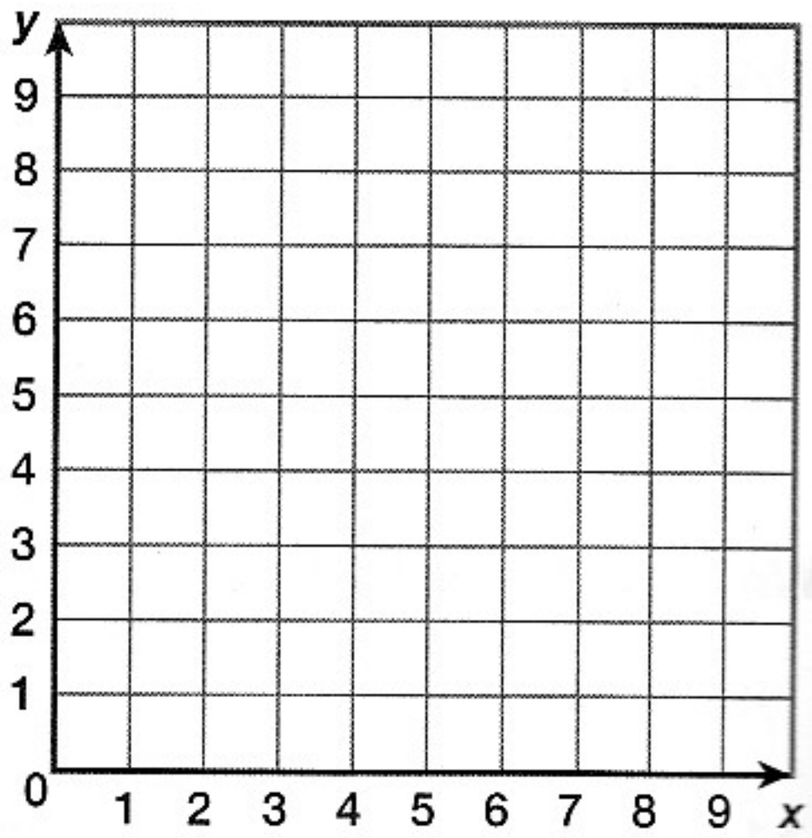
15. Plot the points *M* (3, 6), *N* (7, 6), *P* (7, 4) and *Q* (3, 4). Connect the points to form a rectangle.

16. Plot *T* (6, 1). Connect *Z* and *T*, then *Y* and *T*. What is *XYTZ*?

_____

17. Plot *C* (1, 2). Connect *A* and *C*, then *B* and *C*. What coordinates of a point *L* would make *ACBL* a rectangle?

_____



Name _____ Date _____

Graphs of Functions

Find the number of apples in 6 boxes.

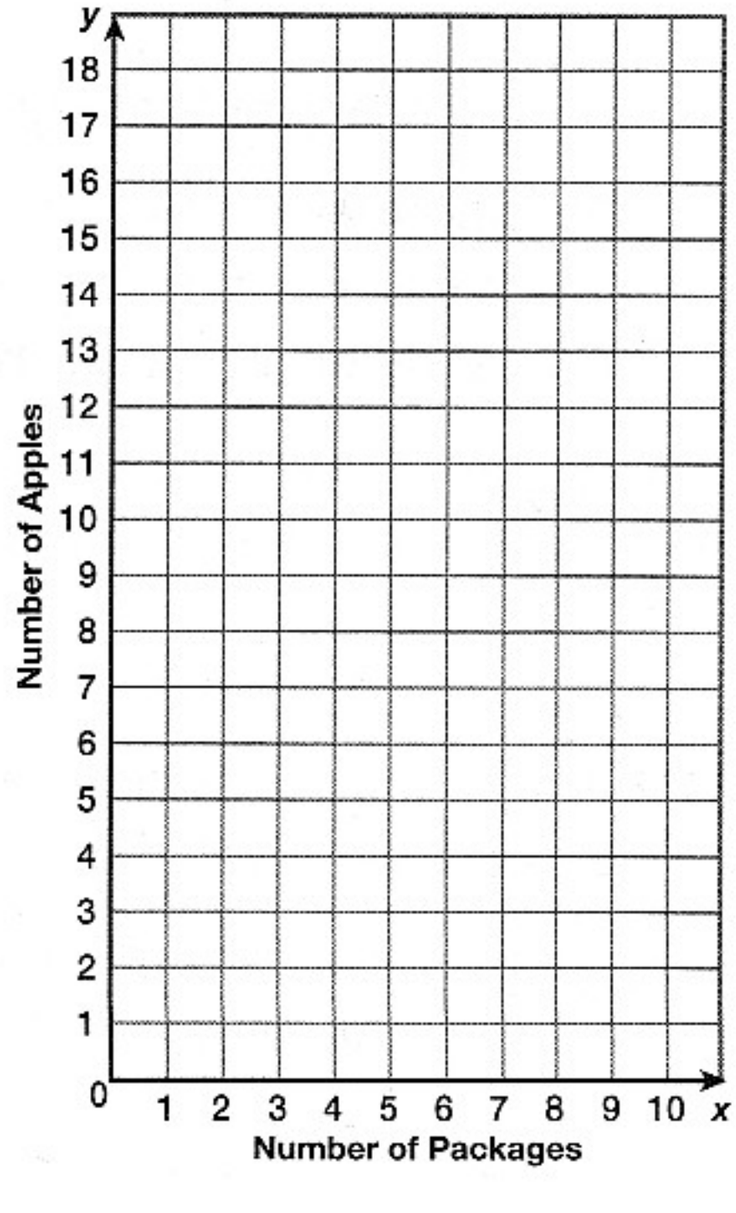
Number of Boxes	Number of Apples
1	3
2	
3	
4	
5	

1. There are 3 apples in each box. Complete the table.

2. Write the pairs of data as ordered pairs. Record the number of boxes as the first coordinate and the number of apples as the second coordinate.

3. On the graph, plot the points named by the ordered pairs. Connect the points. Check that the points lie on a line.

4. Extend the line segment. Find the number of apples that would be in 6 boxes. _____



Problem Solving • Reasoning

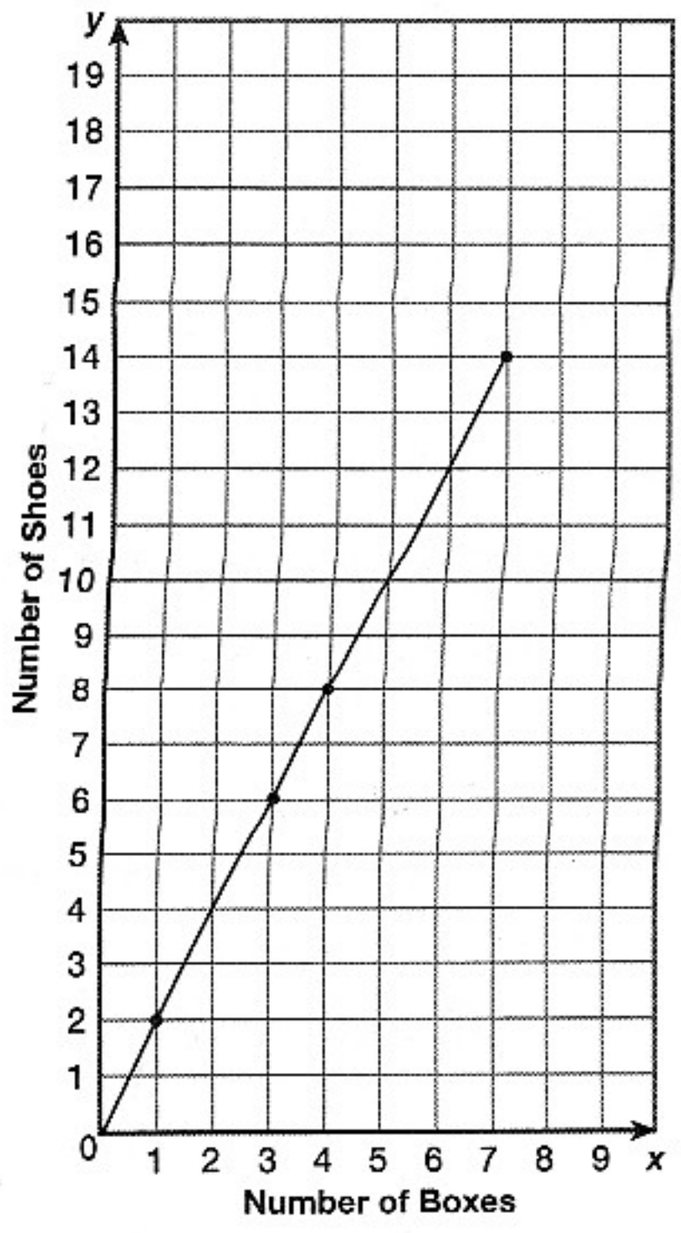
Use the graph for Problems 5–8.

5. How many shoes are in 4 boxes? _____

6. How many shoes do you expect to be in *10 boxes*? _____

7. Extend the line. Do you expect the point (10, 20) to be on the line? _____

8. Compare how many more shoes are in 7 boxes than in 3 boxes. _____



Name _____ Date _____

Problem-Solving Skill: Use a Graph

Solve. Use the graph at the right.

1. The manager of the grocery store was packing oranges in bags. If the manager used 5 bags, how many oranges did he pack?

Think: Can you use one of the points marked to help you?

_____

2. If the manager packed 9 oranges, how many bags did he use?

Think: How should you read the graph to find the number of bags used?

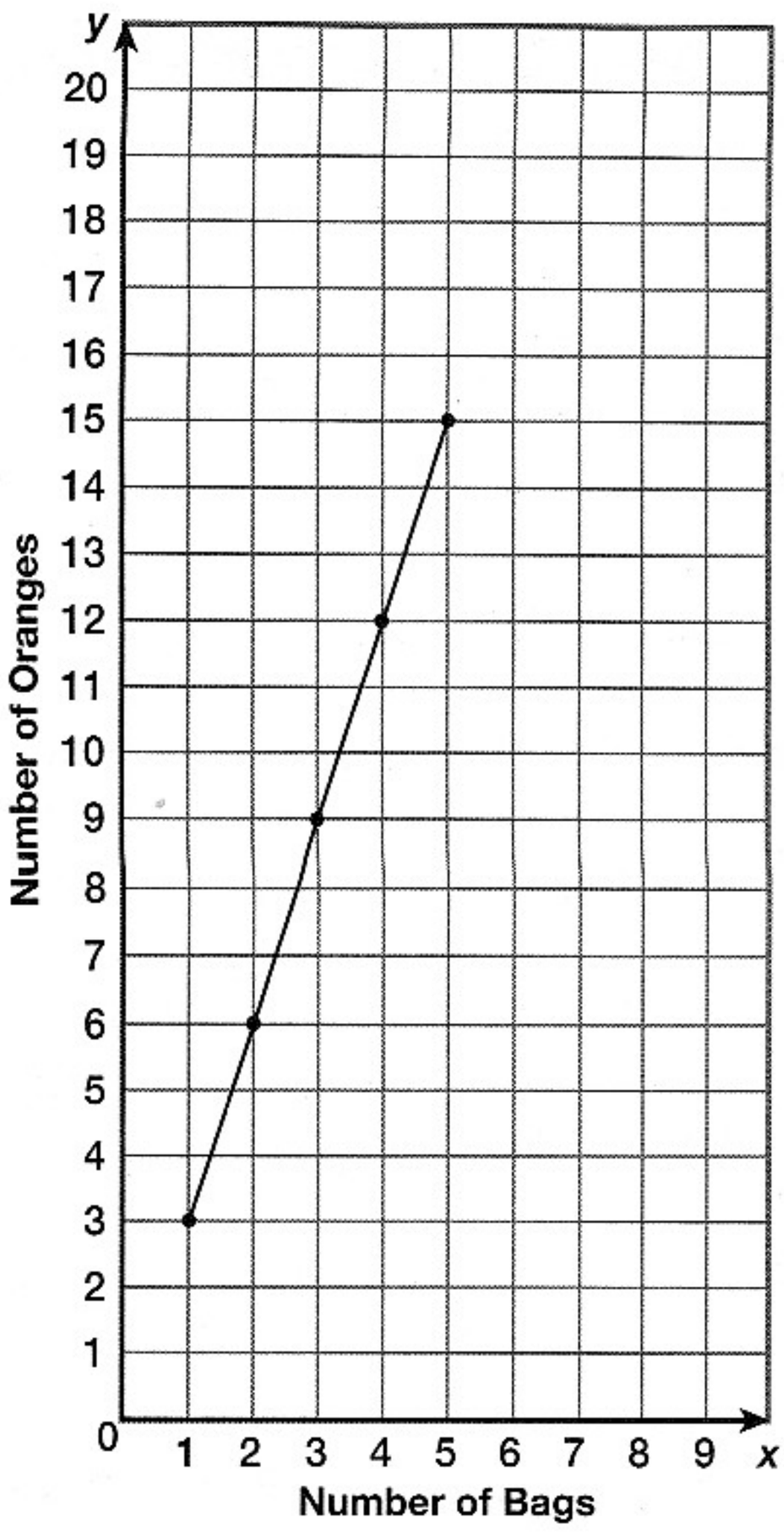
_____

3. How many oranges would you expect to be in 6 bags?

_____

4. How many bags would you need if you were to pack 21 oranges?

_____



Solve. Use the graph above for Exerises 5–6. Use these or other strategies.

Problem-Solving Strategies

- **Guess and Check**
- **Find a Pattern**
- **Write an Equation**
- **Use Logical Thinking**

5. The manager has 11 oranges that he wants to pack in bags. How many bags will he need?

_____

6. Let *y* stand for the number of oranges that the manager wants to pack. Let *x* stand for the number of bags needed. Write a rule to show a relationship.

_____

Name _____ Date _____

Integers

Example

2 hours before the movie starts

-2

Write the integer for each situation.

1. owe $5

_____

2. 12 degrees above zero

_____

3. behind 6 points

_____

4. 7 degrees below zero

_____

5. earn $4

_____

6. a balance of $14 in an account

_____

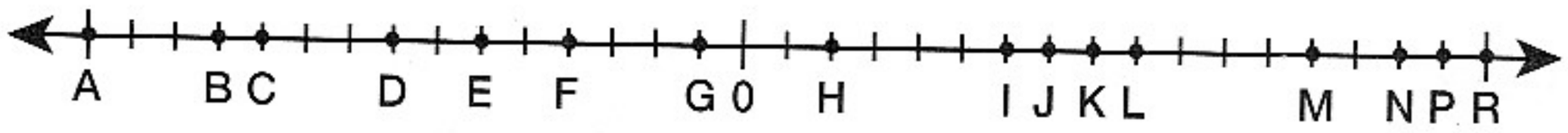
7. gain 6 pounds

_____

8. lose $8

_____

For Exercises 9–20 use the number line below.



Write the integer for each letter on the number line.

9. E _____

10. J _____

11. N _____

12. B _____

13. I _____

14. R _____

15. F _____

16. L _____

17. G _____

18. M _____

19. H _____

20. D _____

Problem Solving • Reasoning

21. The temperature is 7 degrees below zero. What integer represents the temperature?

_____

22. The temperature is 42 degrees above zero. What integer represents the temperature?

_____

Name _____ Date _____

Identify Points on a Coordinate Plane

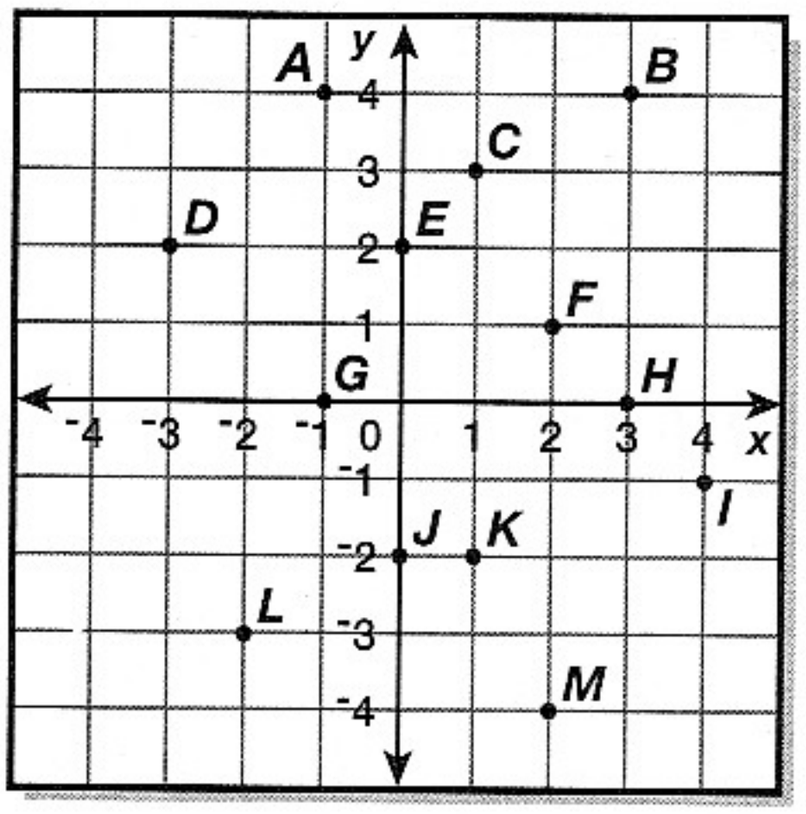
For exercises 1–12 use the graph on the right. Follow the directions. Write the letter and the coordinates of each point.

Example

Write the letter and the coordinate of each point.

Start at (0, 0).
Move left 3 spaces.
Then move up 2 spaces.

***D* (-3, 2)**



1. Start at (0, 0).
Move right 3 spaces.
Then move up 4 spaces.

_____

2. Start at (0, 0).
Move left 2 spaces.
Then move down 3 spaces.

_____

3. Start at (0, 0).
Move down 2 spaces.

_____

4. Start at (0, 0).
Move up 4 spaces.
Then move left 1 space.

_____

Name the letter of each ordered pair.

5. (2, 1) _____

6. (4, -1) _____

7. (0, 2) _____

8. (1, -2) _____

9. (-1, 0) _____

10. (2, -4) _____

11. (-1, 4) _____

12. (3, 0) _____

13. (1, 3) _____

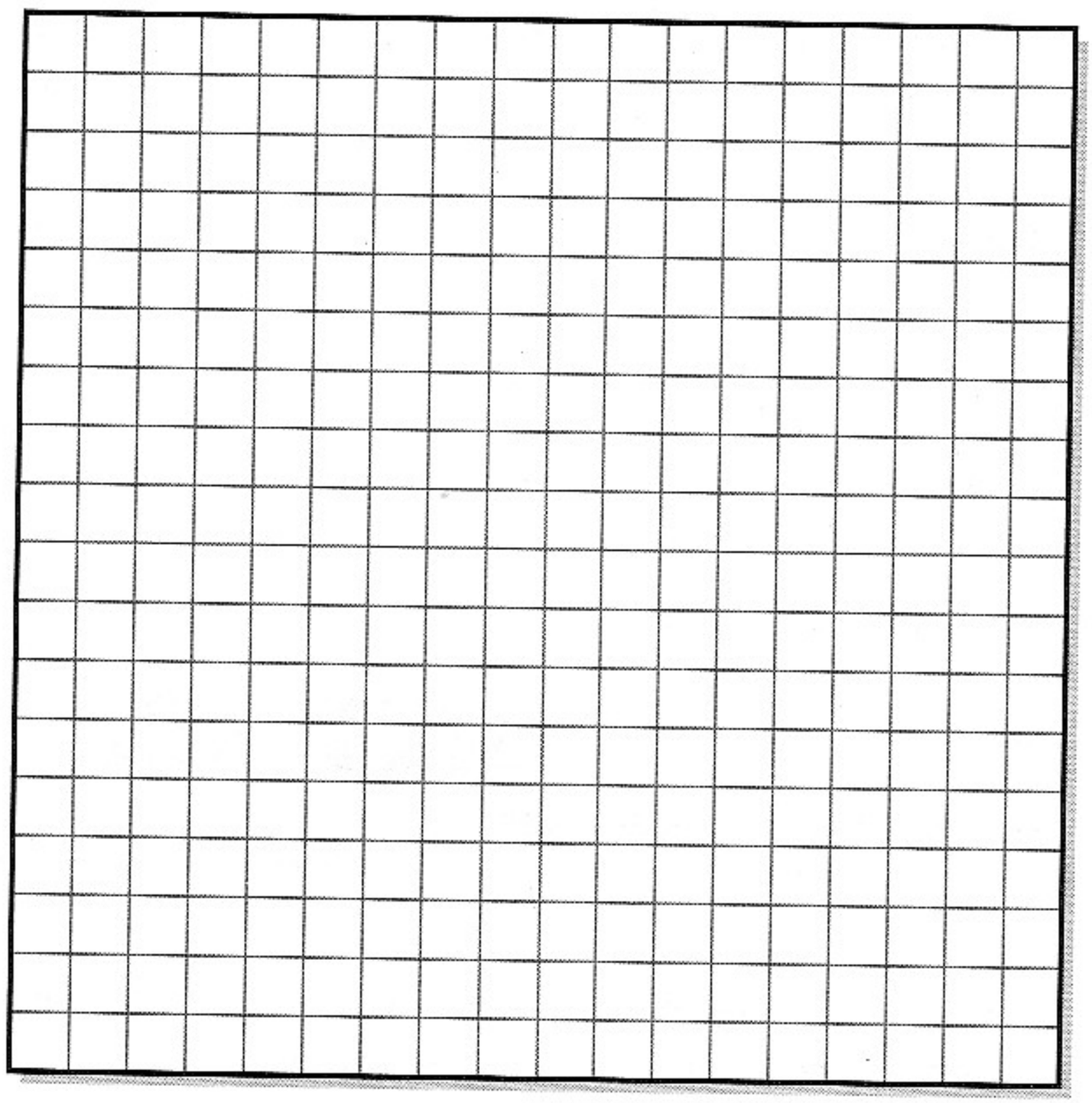
Name _____ Date _____

Graph Ordered Pairs on the Coordinate Plane

Draw an *x*-axis and a *y*-axis on the grid. Number each axis starting with 0 where the *x*-axis and *y*-axis cross.
Use your graph for the problems on this page.

Plot and label each point.

1. Point B $(^{-}1, 4)$
2. Point D $(^{-}6, ^{-}2)$
3. Point F $(5, ^{-}6)$
4. Point C $(4, 2)$
5. Point A $(^{-}5, 3)$
6. Point E $(^{-}2, ^{-}4)$
7. Point J $(^{-}6, 1)$
8. Point G $(4, 6)$
9. Point I $(^{-}4, ^{-}8)$
10. Point H $(2, ^{-}2)$



List all points that are:

11. above the *x*-axis

_____

12. below the *x*-axis

_____

13. to the right of the *y*-axis

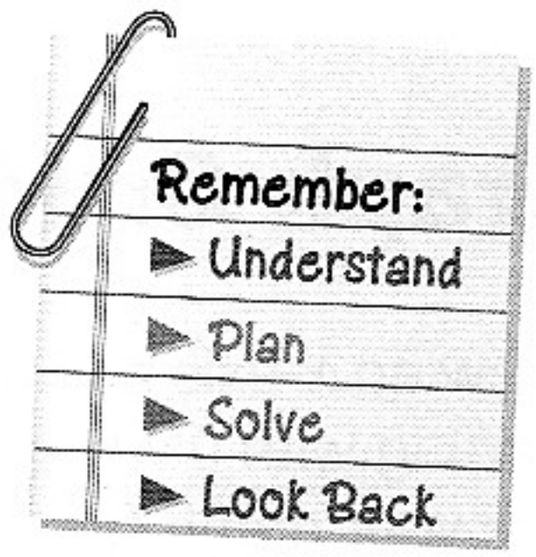
_____

14. to the left of the *y*-axis

_____

Name _____ Date _____

Problem-Solving Strategy
Choose a Strategy



Use a strategy to solve each problem.

1. Anne owes her brother $9. She borrowed $4 to buy a book. What integer represents how much Anne owes her brother now?

Think: Can I use a model to solve this problem?

_____

2. Notebooks are on sale. Each notebook is $1, but if you buy two, you get one free. How many notebooks can you get for $4?

Think: Can I make a graph to solve this problem?

_____

Solve. Use these or other strategies.

Problem-Solving Strategies

- **Make a Table**
- **Guess and Check**
- **Draw a Picture**
- **Use Logical Thinking**

3. James wants to send 3 packages by delivery service. Each costs $7. What is the total cost?

_____

4. Neil borrowed $5 each day for a week to buy kiwis. What integer represents how much he owes now?

_____

5. The volleyball team had 5 pizzas delivered after the game. Each pizza cost $7, and the delivery charge was $4. What integer represents how much they owe for the pizzas?

_____

6. Kim and Sarah played chess, and a winner was decided each time. They played 5 games in total. Sarah had one more victory then Kim. How many times did Kim win?

_____

Name _____ Date _____

Find Lengths on a Coordinate Plane

In problems 1–6 find the length of the line segment that connects each pair of points.

1. $(4, ^-2)$ $(4, 4)$

_____

2. $(5, 3)$ $(5, ^-1)$

_____

3. $(^-1, 2)$ $(6, 2)$

_____

4. $(^-2, 9)$ $(^-1, 9)$

_____

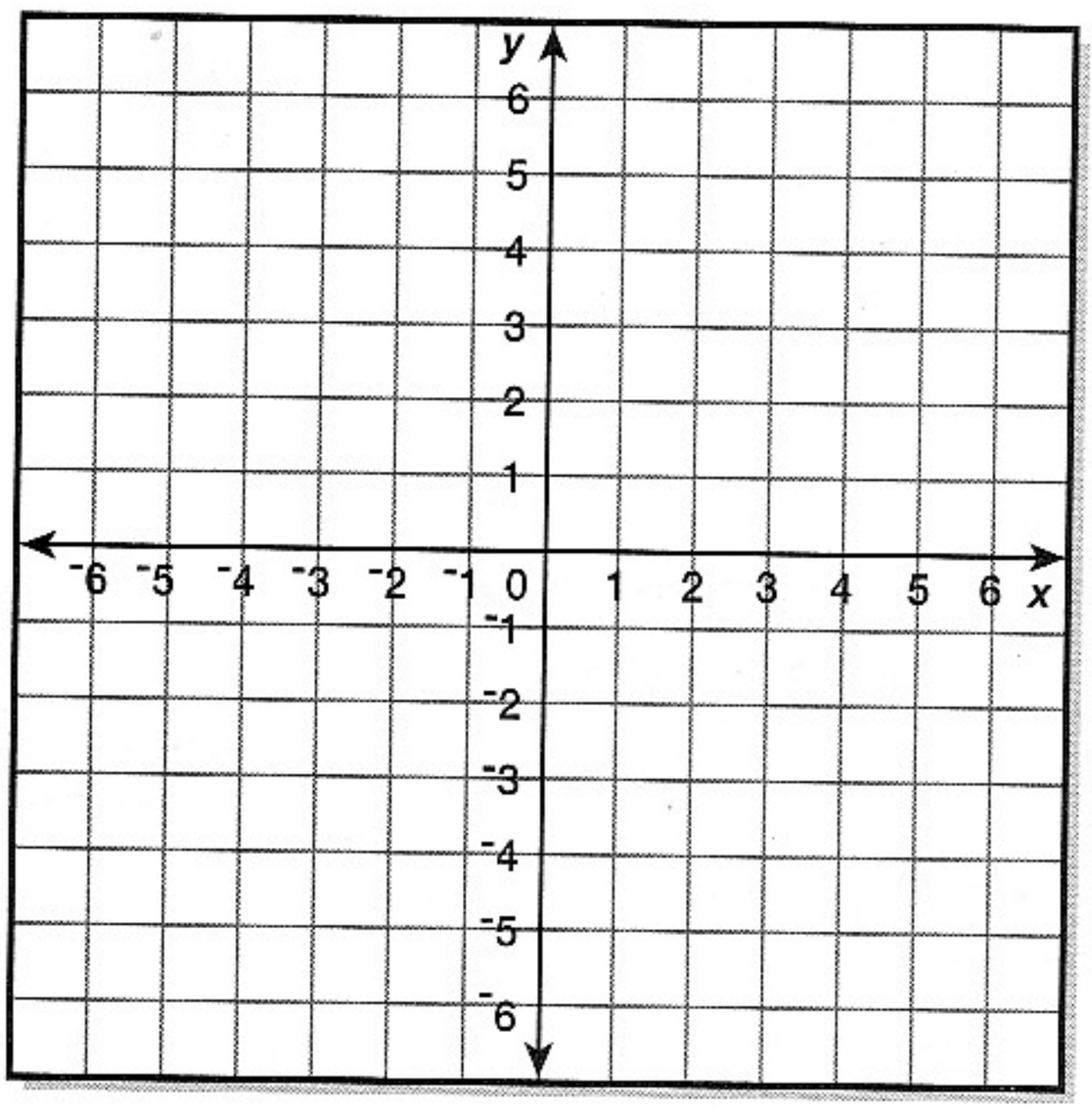
5. $(7, ^-4)$ $(^-1, ^-4)$

_____

6. $(^-3, ^-4)$ $(^-3, ^-1)$

_____

Use the grid on the right for problems 6–11. Graph each pair of points. Then find the length of the segment that connects each pair of points.



7. $A\ (^-3, 2)$
$B\ (2, 2)$

_____

8. $C\ (2, ^-3)$
$D\ (^-3, ^-3)$

_____

9. $E\ (^-1, 4)$
$F\ (5, 4)$

_____

10. $G\ (^-1, 2)$
$H\ (5, 2)$

_____

Problem Solving • Reasoning

11. The length of segment AB is 6 units. If A is named by $(^-4, ^-3)$, and B is named by $(\blacksquare, ^-3)$, then what are the possible values for $\blacksquare$?

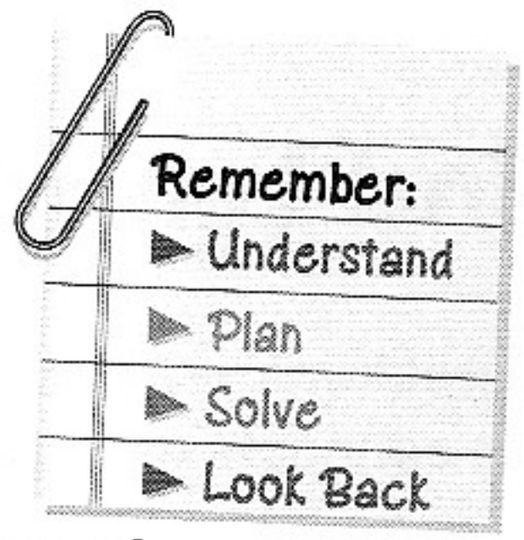
_____

12. A square is 4 units on each side. Two of the corners of the square are at points named by $(^-1, 2)$ and $(3, ^-2)$. Name the ordered pairs for the other two corners.

_____

Name _____ Date _____

Problem-Solving Application: Use a Graph



Solve. Use the graph at right.

1. How much will it cost to rent 3 video tapes for a day?

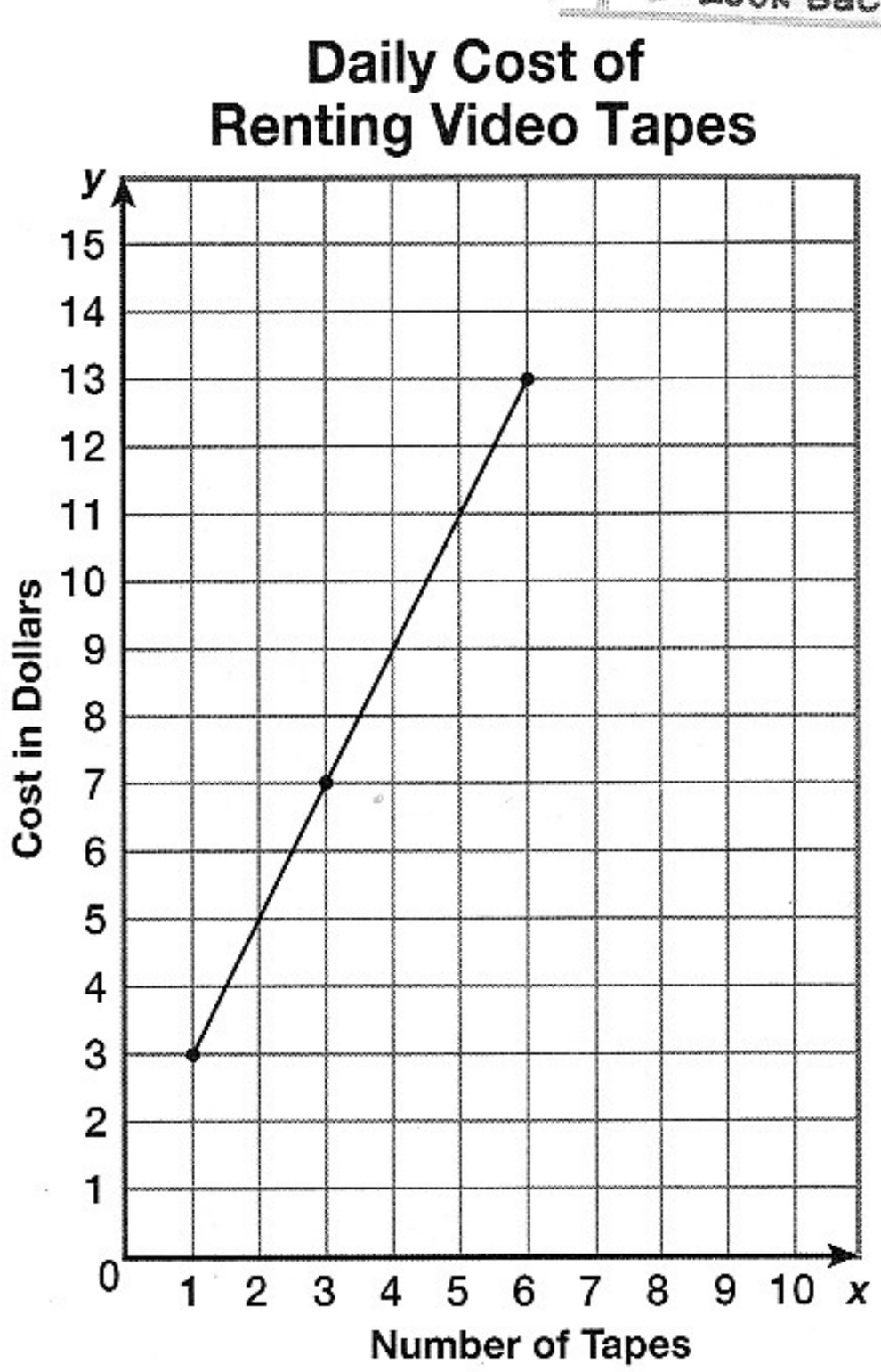
Think: Is the information you need on the graph?

_____

2. How much will it cost to rent 7 video tapes for a day?

Think: Can you extend the line to help find the answer?

_____



Use the graph for Exercises 3–6. Choose any strategy to solve.

Problem-Solving Strategies

- Draw a Picture
- Find a Pattern
- Write an Equation
- Use Logical Thinking

3. How much will it cost to rent 9 video tapes for a day?

_____

4. How many videos can you rent for one day for $17?

_____

5. Let *x* stand for the number of video tapes. Let *y* stand for the cost of renting them for a day. Write a rule to show a relationship.

_____

6. Use your rule from Problem 5. How much will it cost to rent 14 video tapes for a day?

_____