Name _____ Date _____ Class _____

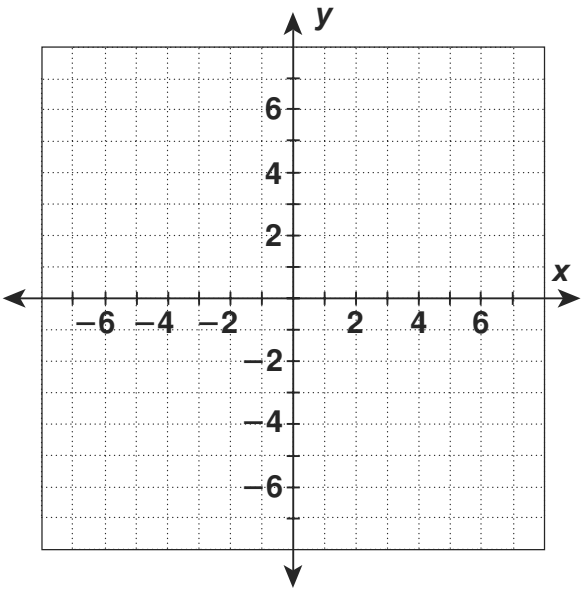
LESSON 4-1

# Puzzles, Twisters & Teasers

## *Plane Thinking!*

**Plot the points in the coordinate plane below. Fill in the blanks to form a sentence, then connect the points to make a picture that matches your sentence. You won't need to use all the letters in your sentence.**

| | | | | |
|---|---|---|---|---|
| **S** (1, 5) | **N** (3, 1) | **T** (6, 1) | **R** (−1, 1) | **A** (−4, 1) |
| **O** (−1, −2) | **I** (3, −2) | **B** (−4, −5) | **D** (6, −5) | **C** (1, −3) |




| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| _____ | | _____ | _____ | _____ | _____ | | _____ | _____ | | | |
| (−4, 1) | | (1, 5) | (6, 1) | (−4, 1) | (−1, 1) | | (3, −2) | (1, 5) | | | |

| | | | | |
|---|---|---|---|---|
| _____ | _____ | _____ | _____ | ! |
| (−4, −5) | (−1, −2) | (−1, 1) | (3, 1) | |

LESSON 4-1

## Challenge

### *Where in the World?*

**Graph each point on the grid below. Connect each point to the previous one as you graph it. Then connect the last point to the first point.**

**1.** (0, −10) **2.** (−1, −9) **3.** (−2.5, −7) **4.** (−5, −7)

**5.** (−6, −5) **6.** (−10, −5) **7.** (−13, −3) **8.** (−15, −1)

**9.** (−16, 2) **10.** (−15, 8) **11.** (−15, 10) **12.** (−3, 9)

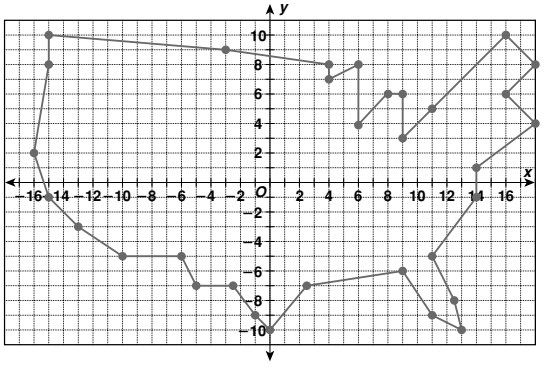
**13.** (4, 8) **14.** (4, 7) **15.** (6, 8) **16.** (6, 4)

**17.** (8, 6) **18.** (9, 6) **19.** (9, 3) **20.** (11, 5)

**21.** (16, 10) **22.** (18, 8) **23.** (16, 6) **24.** (18, 4)

**25.** (14, 1) **26.** (14, −1) **27.** (11, −5) **28.** (12.5, −8)

**29.** (13, −10) **30.** (11, −9) **31.** (9, −6) **32.** (2.5, −7)




**33.** In which state is the point (0, −8)? Texas

**34.** Name a point in the state of Florida. Possible Answer: (12, −9)





LESSON 4-1

## Problem Solving

### *The Coordinate Plane*

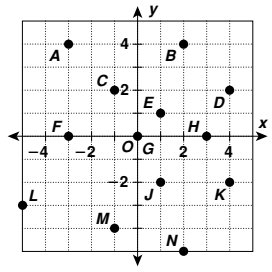
**Write the correct answer.**

**1.** Use the coordinate plane at right. In which quadrant(s) would the figure drawn by connecting points *J*, *K*, and *N* be?

Quadrant IV

**2.** Use the coordinate plane at right. In which quadrant(s) would the figure drawn by connecting points *C*, *F*, and *M* be?

Quadrants II and III




**3.** Maxine left home and walked 5 blocks north, 5 blocks west, 5 blocks south, and 5 blocks east. Where did she end up?

back at home

**4.** Mr. Chin drove 2 miles north, then 3 miles east, then 2 miles south. How far is Mr. Chin from where he started?

3 miles

**Choose the letter for the best answer.**

**5.** Which one of these points lies in Quadrant II of the coordinate plane above?

**A** (5, 1) **C** (−5, 1)

**B** (5, −1) **D** (−5, −1)

**6.** In which quadrant of the coordinate plane above is the figure formed by joining (−4, −5), (−2, −3) and (−1, −1)?

**F** Quadrant I **H** Quadrant III

**G** Quadrant II **J** Quadrant IV

**7.** Abe and Carlos left the library at the same time. Abe walked 4 blocks north and 5 blocks west. Carlos walked 4 blocks east and 4 blocks north. How far apart were they?

**A** 10 blocks **C** 8 blocks

**B** 9 blocks **D** 5 blocks

**8.** When a point lies on the *x*-axis, which of these must be true?

**F** The *x*-coordinate is 0.

**G** The *y*-coordinate is 0.

**H** The *x*-coordinate is greater than the *y*-coordinate.

**J** The *y*-coordinate is greater than the *x*-coordinate.



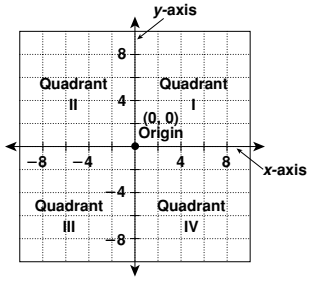


LESSON 4-1

## Reading Strategies

### *Using Relevant Information*

Horizontal number lines and vertical number lines form a grid called the **coordinate plane.**




**1.** What is the name of the horizontal number line? *x*-axis

**2.** What is the name of the vertical number line? *y*-axis

**3.** The number lines meet at point (0, 0). What is that point called? the origin

**4.** What are the four parts that divide the coordinate plane called? quadrants

To locate a point on the coordinate plane, you always start at the origin. You first move either to the right or left along the ***x*-axis.**

**Write "positive" or "negative" to show which direction you are moving from zero.**

**5.** If you move to the right, you are moving in a positive direction.

**6.** If you move to the left, you are moving in a negative direction.

From your position on the *x*-axis, you move up or down along the ***y*-axis.**

**Write "positive" or "negative" to show which direction you are moving from zero.**

**7.** If you move up, you are moving in a positive direction.

**8.** If you move down, you are moving in a negative direction.





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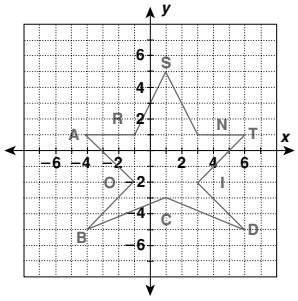


| A | | S | T | A | R | | I | S |
|---|---|---|---|---|---|---|---|---|
| (−4, 1) | | (1, 5) | (6, 1) | (−4, 1) | (−1, 1) | | (3, −2) | (1, 5) |

| B | O | R | N | ! |
|---|---|---|---|---|
| (−4, −5) | (−1, −2) | (−1, 1) | (3, 1) | |