Lesson 33 Ordered Pairs and the Coordinate Plane

S 5.8(A) Describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the *x*-coordinate, the first number in an ordered pair, indicates movement parallel to the *x*-axis starting at the origin; and the *y*-coordinate, the second number, indicates movement parallel to the *y*-axis starting at the origin.

S 5.8(B) Describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane.

R 5.8(C) Graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table.

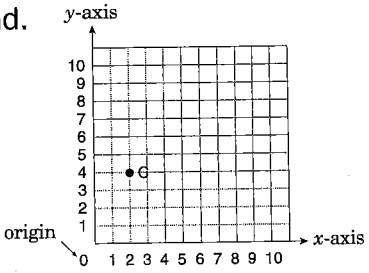
Understand the TEKS

You can locate and name points on a **coordinate plane** using ordered pairs of numbers.

Words to Know
coordinate plane
coordinate grid
x-axis
y-axis
origin
ordered pair
x-coordinate
y-coordinate

A coordinate plane, or **coordinate grid**, uses numbers, called coordinates, to show the locations of points on a plane. The horizontal number line of a coordinate grid is called the ***x*-axis**. The vertical number line is called the ***y*-axis**. The *x*-axis and *y*-axis intersect at the **origin**.

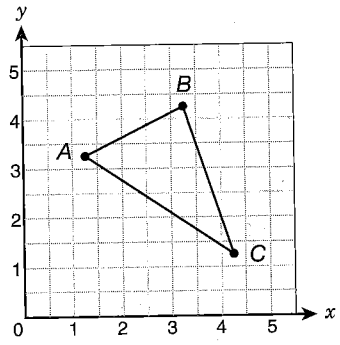
Ordered pairs are used to name the locations of points. The origin is the beginning of both the *x*-axis and the *y*-axis, so its ordered pair is (0, 0). Ordered pairs list the ***x*-coordinate** first and the ***y*-coordinate** second. The ordered pair for point *C* on the right is (2, 4).



To graph an ordered pair, read the first number and move that number of spaces along the horizontal axis. Then, read the second number and move that number of spaces along the vertical axis.

Guided Instruction

Problem 1 The illustration shows three vertices of a triangle. Draw point *D*(2.25, 0.25). What ordered pair names point *B*? If you connect the four points, what shape is formed?



Step 1 Determine the *x*-coordinate of point *B*.

Each grid space represents a distance of _____

Start at the origin (0, 0), and move along the *x*-axis to the right, counting the units until you are lined up vertically with point *B*.