Grade 5 – Unit 10
Graphing

Parent Letter

Dear Fifth Grade Families,

In Unit 10, students will work on the following fifth grade Common Core standards in the Geometry (G) and Operations & Algebraic Thinking (OA) domains.

5.G.1	Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).
5.G.2	Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.
5.OA.3	Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane.

Unit 10 Concepts:

- Plot coordinates
- Use given information to find start and end coordinates
- Use cardinal directions on a coordinate grid
- Graph shapes
- Identify numerical relationships
- Graph numerical patterns
- Analyze and graph real world data

Unit 10 Vocabulary:

- Coordinates (ordered pairs): x-coordinate, y-coordinate
- Coordinate grid (coordinate plane)
- Origin
- Cardinal directions (north, south, east, west)
- Scale
- Vertex
- Term
- Corresponding term
- Numerical pattern
- Data, data set

Need a review?
Have your student login to Swun Math to access lesson support videos.

Ask questions like these to help your child become a productive mathematical thinker:

- Draw a coordinate grid (coordinate plane). What is the name of the horizontal number line? The vertical number line?
- Show me (2, 3). How could I get to (6, 2)? Tell me how to get there using cardinal directions.
- Using those two points, can you make a triangle (or a square, rectangle, parallelogram, trapezoid, etc.) What are the coordinates of the new points you made?
- If you were to earn $2 an hour for helping me in the garden, how much would you earn in 5 hours? What would that relationship look like on a coordinate grid?
- For every $5 you save, I'll give you $2 more. Make a table that shows 3 terms in this number pattern. Describe the pattern to me. If you saved $25, what's the corresponding term? What does this look like on a graph?

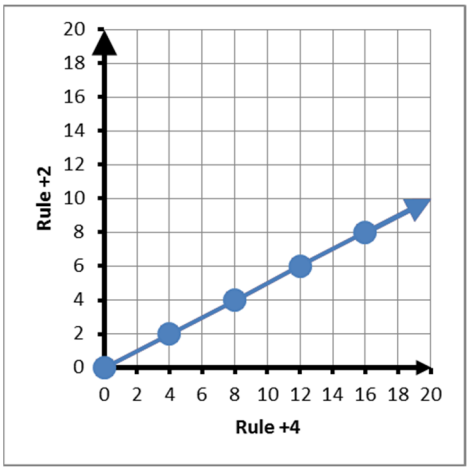
We encourage you to talk with your child daily about what was learned in math class.
Thank you for your support!

Describing and Graphing Patterns

The relationship between the rules is X is twice Y.

2 × 2 = 4

X Rule: +4	0	4	8	12	16
Y Rule: +2	0	2	4	6	8



We can say:

- The value of X is twice Y.
- The value of Y is half of X.
- The difference between the values of X and Y increases by 2 in each corresponding term.

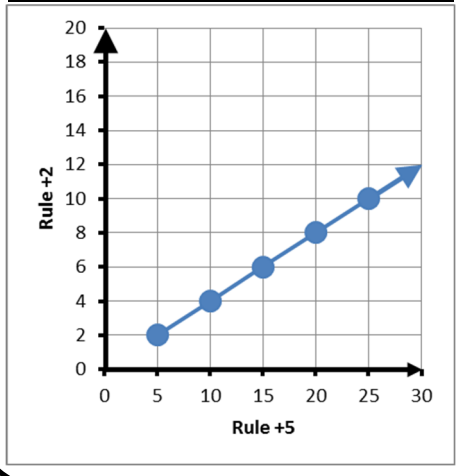
X Rule: +4	0	4	8	12	16
Y Rule: +2	0	2	4	6	8
Difference (X−Y):	0	2	4	6	8

+2 +2 +2 +2

The difference between the rules is 3.

5 − 2 = 3

X Rule: + 5	Y Rule: + 2
5	2
10	4
15	6
20	8
25	10



We can say:

- The value of X is $2^1/_2$ ($^5/_2$) times greater than the value of Y.
- The value of Y $2^1/_2$ ($^5/_2$) times less than the value of X.
- The difference between the values of X and Y increases by a factor of 3 in each corresponding term.

X Rule: + 5	Y Rule: + 2	Difference (X−Y)	
5	2	3	3 × **1** = 3
10	4	6	3 × **2** = 6
15	6	9	3 × **3** = 9
20	8	12	3 × **4** = 12
25	10	15	3 × **5** = 15