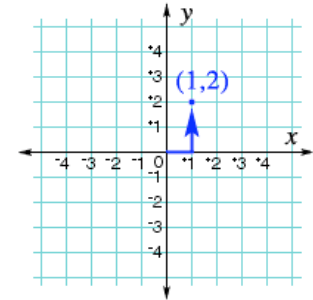


Grade 6 Mathematics Unit Preview

Quarter 1: Algebra, Patterns, and Functions

Objectives: (Your student will be able to)

- **Identify, create, and extend a variety on numeric and non-numeric patterns.** A numeric pattern of 3, 7, 11, 15 follows the rule of $n + 4$, The Non-numeric pattern: ♣, ♣, ♦, ♣, ♣, ♦, ♣, ♣, ♦ follows the rule AABAAB.
- **Analyze patterns and generalize rules illustrated in patterns.** For example, in the pattern: 2, 7, 17, 37, __, __; the rule is $2n + 3$.
- **Construct a function table with a two-operation rule.**
- **Write the rule for a given function.**
- **Write an algebraic expression to represent unknown quantities.** For example, let c = Cindy's age in years. Jay is 2 years older than Cindy ($c + 2$). Ann is 3 years younger than Cindy ($c - 3$).
- **Evaluate an algebraic expression using the order of operations.** For example, evaluate $(3 - n) \div 2 + 7$ if $n = 1$.
- **Explain and apply the order of operations to evaluate numeric expressions.** The order of operations in an equations is evaluate within grouping symbols (parenthesis), do powers or roots (exponents), multiply/divide (left to right), add/subtract (left to right)
- **Solve for the unknown in an equation (one unknown, one operation) with whole numbers.** For example, solve $x - 6 = 10$.
- **Identify the ordered pairs for points and located the points for ordered pairs in the first quadrant of a coordinate plane.** For example, (1,2) names the point 1 unit to the right of the x axis and 2 unit above the y axis.



Vocabulary: (Words your student will need to understand are listed and defined on the back)

Activities to do with your student (in addition to homework, optional):

- Write expressions to describe real life things (siblings age, number of pets, etc.)
- Create and solve equations.
- Create a treasure map on a coordinate plane. Write clues, using coordinates, to find the treasure.
- Write expressions and use order of operations to solve.
- Take turns with a partner writing equations. Try to solve your partner's equation before they solve your equation. Use no more than 5 operations and numbers less than 50.
- Practice basic facts.



Vocabulary: (Words your student will need to understand)

<ul style="list-style-type: none"> • Algebraic expression: A mathematical phrase that includes numbers, operations, and at least one variable. For example, $x + 5$ and $4n \div 6$. 	<ul style="list-style-type: none"> • Coordinate plane: A plane formed by a horizontal line (x-axis) that intersects a vertical line (y-axis).
<ul style="list-style-type: none"> • Function (Rule): A relationship between two quantities in which one quantity depends on the other. For example, $y = 5x + 4$. 	<ul style="list-style-type: none"> • Function table: A table that represents a function.
<ul style="list-style-type: none"> • Non-numeric pattern: A pattern of symbols. For example, ♣, ♣, ♦, ♣, ♣, ♦, ♣, ♣, ♦ follows the rule AABAAB. 	<ul style="list-style-type: none"> • Numeric expression: A mathematical phrase that only uses numbers and operational symbols. For example, 51×36 and $42 \div 7$.
<ul style="list-style-type: none"> • Numeric pattern: A pattern of numbers. 	<ul style="list-style-type: none"> • Order of operations: The rules for performing operations in expressions with more than one operation – see listing above.
<ul style="list-style-type: none"> • Ordered pair: A pair of numbers used to locate a point on a coordinate plane. The first number tells how far to move horizontally and the second number tells how far to move vertically. 	<ul style="list-style-type: none"> • Quadrant: One of the four regions of a coordinate plane.
<ul style="list-style-type: none"> • Unknown (Variable): A letter or symbol that represents a number. For example, in $x + 5$, x is the variable. 	