

Math 6+: Algebraic Concepts Patterns, Function Tables, and the Coordinate Plane

Patterns, Sequences, and Series

Students	Learning Continuum Statements:
Students:	RIT 161-170: • Determines the rule, and extends or finds a missing term for repeating shape patterns • Determines the single-step rule for number patterns involving addition or subtraction • Determines the single-step rule, and extends or finds a missing term for number patterns involving addition
Students:	RIT 171-180: • Creates or extends repeating shape patterns, given the rule • Determines missing values in a function table representing a proportional relationship, given the rule • Determines the rule, and extends or finds a missing term for repeating shape patterns • Determines the single-step rule for number patterns involving addition or subtraction • Determines the single-step rule, and extends or finds a missing term for number patterns involving addition • Determines the single-step rule, and extends or finds a missing term for number patterns involving models
Students:	RIT 181-190: • Analyzes and describes patterns without stating the rule • Determines missing values in a function table representing a nonproportional relationship, given the rule • Determines missing values in a function table representing a proportional relationship, given the rule • Determines missing values in a function table representing a proportional relationship, rule not given • Determines the rule, and extends or finds a missing term for repeating shape patterns • Determines the single-step rule for number patterns involving addition or subtraction • Determines the single-step rule, and extends or finds a missing term for number patterns involving addition • Determines the single-step rule, and extends or finds a missing term for number patterns involving models • Determines the single-step rule, and extends or finds a missing term for number patterns involving subtraction
Students:	RIT 191-200: • Analyzes and describes patterns without stating the rule • Creates or extends growing/shrinking shape patterns, given the rule • Creates or extends number patterns, given the rule • Determines missing values in a function table representing a nonproportional relationship, given the rule

- Determines missing values in a function table representing a nonproportional relationship, rule not given
- Determines missing values in a function table representing a proportional relationship, given the rule
- Determines missing values in a function table representing a proportional relationship, rule not given
- Determines the rule for growing/shrinking shape patterns
- Determines the rule, and extends or finds a missing term for growing/shrinking shape patterns
- Determines the rule, and extends or finds a missing term for patterns involving turning a figure
- Determines the rule, and extends or finds a missing term for repeating shape patterns
- Determines the single-step rule for number patterns involving addition or subtraction
- Determines the single-step rule, and extends or finds a missing term for number patterns involving addition
- Determines the single-step rule, and extends or finds a missing term for number patterns involving subtraction
- Determines the two-step rule for number patterns involving multiple operations
- Determines the two-step rule, and extends or finds a missing term for number patterns involving multiple operations
- Recognizes skip-counting patterns in 100s charts

Students:

RIT 201-210:

- Analyzes and describes patterns without stating the rule
- Creates or extends growing/shrinking shape patterns, given the rule
- Creates or extends number patterns, given the rule
- Determines missing values in a function table representing a nonproportional relationship, given the rule
- Determines missing values in a function table representing a nonproportional relationship, rule not given
- Determines missing values in a function table representing a proportional relationship, given the rule
- Determines missing values in a function table representing a proportional relationship, rule not given
- Determines the rule for a given function table representing a nonproportional relationship
- Determines the rule for a given function table representing a proportional relationship
- Determines the rule for growing/shrinking shape patterns
- Determines the rule, and extends or finds a missing term for growing/shrinking shape patterns
- Determines the rule, and extends or finds a missing term for number patterns which increase or decrease by a nonconstant amount
- Determines the rule, and extends or finds a missing term for patterns involving turning a figure
- Determines the rule, and extends or finds a missing term for repeating shape patterns
- Determines the single-step rule for number patterns involving multiplication or division
- Determines the single-step rule, and extends or finds a missing term for number patterns involving multiplication or division
- Determines the single-step rule, and extends or finds a missing term for number patterns involving subtraction
- Determines the two-step rule, and extends or finds a missing term for number patterns involving multiple operations

- Identifies a function table that matches a given rule
- Identifies number patterns that match a given rule, within a real-world context
- Recognizes skip-counting patterns in 100s charts

Students:

RIT 211-220:

- Analyzes and describes patterns without stating the rule
- Creates or extends growing/shrinking shape patterns, given the rule
- Determines missing values in a function table representing a nonproportional relationship, given the rule
- Determines missing values in a function table representing a nonproportional relationship, rule not given
- Determines missing values in a function table representing a proportional relationship, rule not given
- Determines the rule for a given function table representing a nonproportional relationship
- Determines the rule for a given function table representing a proportional relationship
- Determines the rule for growing/shrinking shape patterns
- Determines the rule, and extends or finds a missing term for growing/shrinking shape patterns
- Determines the rule, and extends or finds a missing term for number patterns which increase or decrease by a nonconstant amount
- Determines the rule, and extends or finds a missing term given descriptions of number patterns within a real-world context
- Determines the single-step rule, and extends or finds a missing term for number patterns involving multiplication or division
- Determines the two-step rule, and extends or finds a missing term for number patterns involving multiple operations
- Identifies a function table that matches a given rule
- Identifies number patterns that follow the same rule, rule not given
- Identifies number patterns that match a given rule, within a real-world context
- Recognizes skip-counting patterns in 100s charts

Students:

RIT 221-230:

- Analyzes and describes patterns without stating the rule
- Creates or extends growing/shrinking shape patterns, given the rule
- Determines missing values in a function table representing a nonproportional relationship, given the rule
- Determines missing values in a function table representing a nonproportional relationship, rule not given
- Determines the rule for a given function table representing a nonproportional relationship
- Determines the rule for growing/shrinking shape patterns
- Determines the rule for number patterns involving fractions
- Determines the rule, and extends or finds a missing term for number patterns which increase or decrease by a nonconstant amount
- Determines the single-step rule, and extends or finds a missing term for number patterns involving fractions
- Determines the sum of a finite arithmetic series to solve a problem

- Determines the two-step rule, and extends or finds a missing term for number patterns involving multiple operations
- Determines the value of a term in a geometric sequence given a contextual situation
- Determines the value of a term in an arithmetic sequence given a contextual situation
- Identifies a function table that matches a given rule
- Identifies number patterns that match a given rule, within a real-world context

Students:

RIT 231-240:

- Determines missing values in a function table representing a nonproportional relationship, given the rule
- Determines missing values in a function table representing a nonproportional relationship, rule not given
- Determines the rule for number patterns involving fractions
- Determines the rule, and extends or finds a missing term for number patterns which increase or decrease by a nonconstant amount
- Determines the rule, and extends or finds a missing term in a Fibonacci sequence
- Determines the single-step rule, and extends or finds a missing term for number patterns involving fractions
- Determines the sum of a finite geometric series
- Determines the two-step rule, and extends or finds a missing term for number patterns involving multiple operations
- Determines the value of a term in a geometric sequence given a contextual situation
- Determines the value of a term in an arithmetic sequence given a contextual situation
- Recognizes arithmetic sequences
- Writes an expression or formula for the n th term of an arithmetic sequence given a contextual situation

Students:

RIT 241-250:

- Determines the rule for number patterns involving fractions
- Determines the rule, and extends or finds a missing term in a Fibonacci sequence
- Determines the value of a term in a geometric sequence given a contextual situation
- Determines the value of a term in an arithmetic sequence given a contextual situation
- Writes an expression or formula for the n th term of an arithmetic sequence given a contextual situation
- Writes an expression or formula for the n th term of an arithmetic sequence given a number sequence

Students:

RIT 251-260:

- Determines the common ratio in a geometric sequence
- Determines the rule, and extends or finds a missing term for number patterns which increase or decrease by a nonconstant amount, within a real-world context
- Determines the rule, and extends or finds a missing term in a Fibonacci sequence
- Determines the sum of an infinite geometric series
- Determines the value of a term in a geometric sequence defined by a list
- Determines the value of a term in a geometric sequence given a contextual situation
- Determines the value of a term in an arithmetic sequence given a contextual situation

- Writes an expression or formula for the n th term of a geometric sequence given a number sequence
- Writes an expression or formula for the n th term of an arithmetic sequence given a contextual situation
- Writes an expression or formula for the n th term of an arithmetic sequence given a number sequence

Students:

RIT 261-270:

- Determines the value of a term in a geometric sequence defined by a list
- Determines the value of a term in a geometric sequence given a contextual situation
- Writes an expression or formula for the n th term of a geometric sequence given a number sequence
- Writes an expression or formula for the n th term of a quadratic sequence given a number sequence
- Writes an expression or formula for the n th term of an arithmetic sequence given a contextual situation
- Writes an expression or formula for the n th term of an arithmetic sequence given a number sequence

Students:

RIT 271-280:

- Determines the value of a term in a geometric sequence defined by a list
- Writes a series using sigma notation
- Writes an expression or formula for the n th term of a geometric sequence given a number sequence
- Writes an expression or formula for the n th term of an arithmetic sequence given a number sequence

Students:

RIT 281-290:

- Determines the value of a term in a geometric sequence defined by a list
- Writes a series using sigma notation