

Content – Elaborations

- **powers:**
 - positive and negative exponents
 - exponent laws
 - evaluation using order of operations
 - numerical and variable bases
- **prime factorization:**
 - expressing prime factorization of a number using powers
 - identifying the factors of a number
 - includes greatest common factor (GCF) and least common multiple (LCM)
 - strategies include using factor trees and factor pairs
- **functions and relations:**
 - communicating domain and range in both situational and non-situational contexts
 - connecting graphs and context
 - understanding the meaning of a function
 - identifying whether a relation is a function
 - using function notation
- **linear functions:**
 - slope: positive, negative, zero, and undefined
 - types of equations of lines (point-slope, slope intercept, and general)
 - equations of parallel and perpendicular lines
 - equations of horizontal and vertical lines
 - connections between representations: graphs, tables, equations
- **arithmetic sequences:**
 - applying formal language (common difference, first term, general term) to increasing and decreasing linear patterns
 - connecting to linear relations
 - extension: exploring arithmetic series
- **systems:**
 - solving graphically
 - solving algebraically by inspection, substitution, elimination
 - connecting ordered pair with meaning of an algebraic solution
 - solving problems in situational contexts

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- **multiplication:**
 - applying the distributive property between two polynomials, including trinomials
 - connecting the product of binomials with an area model
- **factoring:**
 - greatest common factor of a polynomial
 - simpler cases involving trinomials ($y = x^2 + bx + c$) and difference of squares
- **trigonometric:**
 - sine, cosine, and tangent ratios
 - right-triangle problems: determining missing sides and/or angles using trigonometric ratios and the Pythagorean theorem
 - contexts involving direct and indirect measurement
- **financial literacy:**
 - types of income
 - income tax and other deductions