

# Some Things to KNOW for PSAT

## Algebra Focus

Analyze and solve equations

Analyze and solve systems of equations

Create expressions, equations, and inequalities to represent relationships between quantities and to solve problems;

Use expressions, equations, and inequalities to solve problems;

Rearrange and interpret formulas

Questions in algebra measure the ability to analyze, solve, and create linear equations and inequalities as well as analyze and fluently solve equations and systems of equations using multiple techniques. Questions include:

- Linear equations in 1 variable
- Linear equations in 2 variables
- Linear functions
- Systems of 2 linear equations in 2 variables
- Linear inequalities in 1 or 2 variables

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## Problem Solving Focus

Use substitution in algebraic expressions  
Simplify algebraic expressions  
Use properties of exponents  
Solve algebraic word problems  
Solve linear equations and linear inequalities  
Solve systems of equations and systems of inequalities  
Solve rational and equations  
Solve radical equations  
Know and use equations of lines  
Use absolute value  
Use direct and inverse variation  
Solve Quadratic equations  
Solve Algebraic functions

Questions in this focus measure skills and knowledge needed for more advanced math courses, including demonstrating an understanding of absolute value, quadratic, exponential, polynomial, rational, radical, and other nonlinear equations. Questions include:

- Equivalent expressions
- Nonlinear equations in 1 variable and systems of equations in 2 variables
- Nonlinear functions

# Some Things to KNOW for PSAT

## Geometry and Trigonometry Focus

Find area and perimeter of a polygon

Find area and circumference of a circle

Find volume (of a 3D figure)

Know and use the Pythagorean theorem

Know and identify Isosceles, equilateral, and right triangles

Know and use parallel and perpendicular lines

Know and use coordinate geometry

Know and find slope;

Know and do transformations

Questions in this focus measure the ability to solve problems on area and volume; angles, triangles, and trigonometry; and circles. Questions include:

- Area and volume
- Lines, angles, and triangles
- Right triangles and trigonometry
- Circles

# Some Things to KNOW for PSAT

## Data Analysis Focus

Data interpretation

Statistics

Mean, median, and mode

Probability

Questions in this focus measure the ability to apply quantitative reasoning about ratios, rates, and proportional relationships; understand and apply unit rate; and analyze and interpret 1- and 2-variable data. Questions include:

- Ratios, rates, proportional relationships, and units
- Percentages, 1-variable data
- Distributions and measures of center and spread
- 2-variable data: models and scatterplots
- Probability and conditional probability
- Inference from sample statistics and margin of error
- Evaluating statistical claims: observational studies and experiments