Achievable

Geometry
ASVAB dump Sheet

Geometry basics

- **Rectangles and squares**
  - Area = length × width (A=lw)
  - Perimeter = all sides added up
- **Triangles**
  - Area = $\frac{1}{2}$ × base × height (A= $\frac{1}{2}$ bh)
  - Perimeter = all sides added up
- **Circles**
  - Area = $\pi \times r^2$ ($A = \pi r^2$)
  - Circumference = $2 \times \pi \times$ radius ($C = 2\pi r$)
- **Polygons**
  - Sum of internal angles is (n-2) 180
- **Midpoint**

$$\left(\frac{(x1 + x2)}{2} \ , \ \frac{(y1 + y2)}{2}\right)$$

Algebra 2

- FOIL (First, Outside, Inside, Last) is how we multiply polynomials
- Measures of Center
  - Mean- average (add all and divide by how many there are)
  - Median- put in order and then find the middle
  - Mode- the number that occurs the most
  - Range- highest -lowest number

Arithmetic reasoning

- Probability = events/possibilities

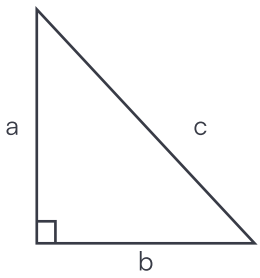
Algebra

- y=mx+b where x and y form any coordinate point on the line
- m is the slope of the line (from the previous section, $\text{slope} = \frac{\text{rise}}{\text{run}}$, which tells you the steepness and direction of the line)
- b is the y-intercept, where the line crosses the y-axis

$$m = \frac{y2 - y1}{x2 - x1}$$

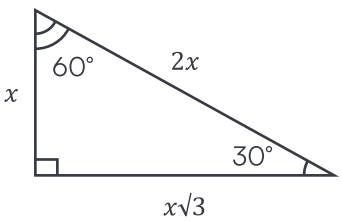
- **Pythagorean theorem**

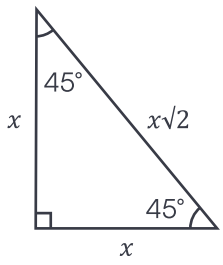
The pythagorean theorem is a formula that lets you find a missing side length in a right triangle (and **only** a right triangle).



Pythagorean theorem

$a^2 + b^2 = c^2$





Distance formula = $\sqrt{(y2 - y1)^2 + (x2 - x1)^2}$

- Volume = length × width × height for most objects
- Cylinder volume = $\pi \times r^2 \times$ height
- Density =mass/volume