

Chapter 1 Study Sheet — everything you need on one page.

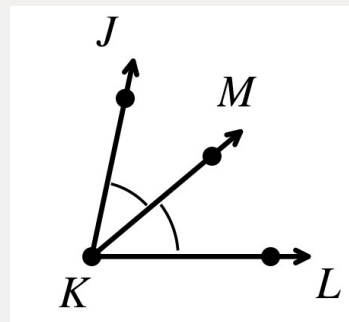
The Four Postulates

Ruler Postulate — every point on a line pairs with a real number; distance = |difference of coordinates|.

Segment Addition Postulate — if B is between A and C, then $AB + BC = AC$.

Protractor Postulate — rays from a point on a line pair with numbers 0 to 180.

Angle Addition Postulate — if M is inside $\angle JKL$, then $m\angle JKM + m\angle MKL = m\angle JKL$.

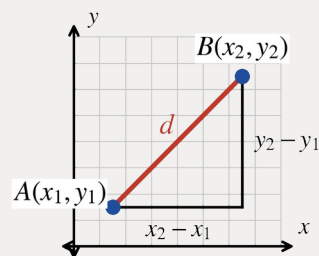


Formulas

Midpoint: $M = ((x_1 + x_2)/2, (y_1 + y_2)/2)$ **Distance:** $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

Triangle: $P = a + b + c$, $A = \frac{1}{2}bh$ **Square:** $P = 4s$, $A = s^2$

Rectangle: $P = 2l + 2w$, $A = lw$

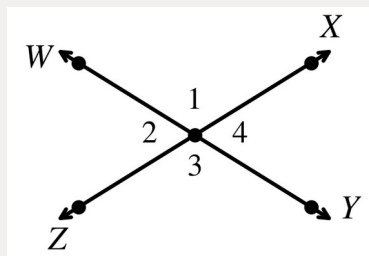


Angles & Angle Pairs

Classify: acute $< 90^\circ$ · right $= 90^\circ$ · obtuse $90^\circ - 180^\circ$ · straight $= 180^\circ$

Complementary: sum 90° · **Supplementary:** sum 180° · **Linear pair:** adjacent + supplementary

Vertical angles: across an X — always congruent · **Bisector:** splits into two $\cong$ parts



Polygon Names

3 triangle · 4 quadrilateral · 5 pentagon · 6 hexagon · 7 heptagon · 8 octagon

9 nonagon · 10 decagon · 12 dodecagon · n n-gon (convex = no dents, concave = dented)