

Symbols and notation for construction logs – REFERENCE

Notation:

Points: A, B, C, ...

Lines: \overleftrightarrow{AB} , \overleftrightarrow{XY} or a, p, ...

Line Segments: AB, XY or a, b,

Rays: \overrightarrow{AB} , \overrightarrow{XY}

Direction of the arrow indicates the ray's origin (in this example, point A and Y are the origin (endpoint)).

Angles: $\angle AVB$ or $\alpha, \beta, \gamma, \delta, \theta, \omega, \dots$

The vertex of the angle is always listed in the middle.

Circles: k, l, m, ...;

when specifying center and radius use parentheses: k(C, AB) or k(C, 3 cm)

Symbols:

“such that”: |

Belongs to, Lies on : \in Does not belong to: \notin Intersection: \cap Union: \cup Perpendicular: \perp Parallel: \parallel AND: \wedge OR: \vee
(logical connectives)Midpoint: \bullet

Useful examples:

 $X, Z \mid \{XY\} = k \cap \overleftrightarrow{AB}$

Mark two points X, Z at the intersections of the circle k and ray AB

 $p \mid p \perp n \wedge P \in p$

Draw a line p such that it is perpendicular to a (given) line n and goes through a (given) point P

 $M \mid M = A \bullet$ B

Construct a point M as the midpoint between A and B

 $k \mid k(C, r)$ Construct a circle k with the center C and any radius r $k \mid k(C, r > \frac{|AB|}{2})$

Construct a circle k with the center C and a radius greater than a half of the length of line segment AB

1. $k \mid k(C, r)$
2. $m \mid m(B, r)$ Construct two circles k and m centered at C and B and with the same radius r1. $k \mid k(C, r)$
2. $m \mid m(B, r')$ This indicates that the two circles may have different radii1. $k \mid k(C, r)$
2. $m \mid m(B, r' \neq r)$ This indicates that the two circles must have different radii

If you need to indicate measures, the “absolute value” symbol:

 $AB \mid |AB| = 3\text{cm}$

Construct a line segment AB whose length is 3 cm

 $\angle AVB \mid |\angle AVB| = 60^\circ$ Construct an angle AVB (V is the vertex) the measure of which is 60°

You do not need to use the „absolute value“ sign when using lowercase or greek letters:

 $\alpha \mid \alpha = 35^\circ$ Construct an angle α measuring 35° $b \mid b = 5\text{ cm}$

Construct a line segment b measuring 5 cm