Draw the Star of David: Overlapping Triangle Construction

Topic reference / ordinary illustration



Ordinary topic reference. Hypothetical dimensions in the four tasks are supplied in their own text; this illustration is not their measured answer.

Draw the Star of David: Overlapping Triangle Construction

Worked example / complete source key

Construct a Star of David with a hypothetical triangle side length of 6 cm. Show the key measurements and symmetry check.

Answer: For side $s=6$ cm, the altitude is $h=6\sqrt{3}/2\approx5.20$ cm and the circumradius is $r=6/\sqrt{3}\approx3.46$ cm. Put the top apex at $(0,+3.46$ cm), the bottom apex at $(0,-3.46$ cm), and the other four vertices at $x=\pm3$ cm and $y=\pm1.73$ cm: the top triangle's base vertices use $y=-1.73$ cm, and the inverted triangle's use $y=+1.73$ cm. Connect each triangle's three vertices. The full vertical apex-to-apex height is $2r\approx6.93$ cm. Check that all six points are about 3.46 cm from C and the two triangles have equal 6 cm sides.