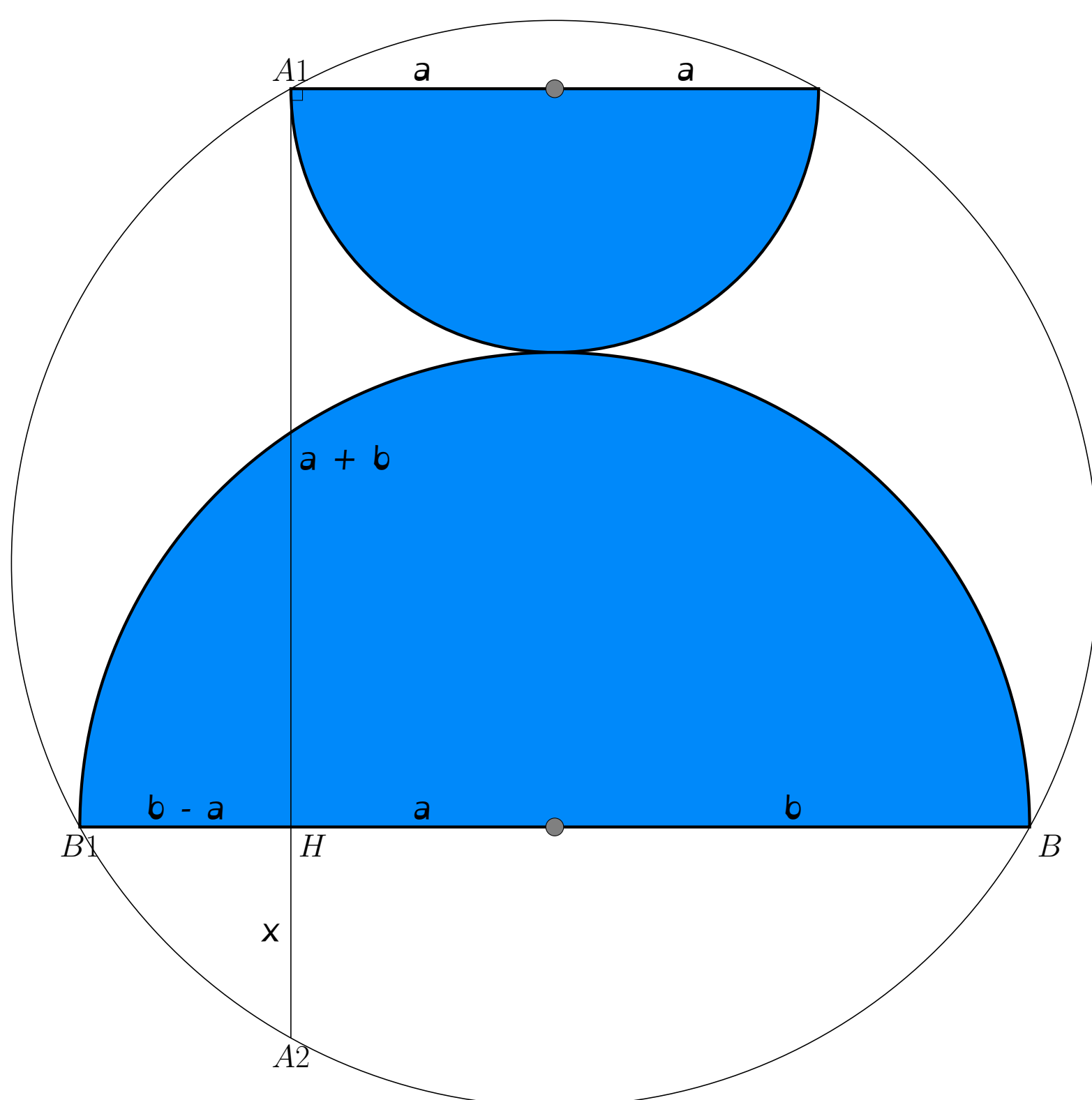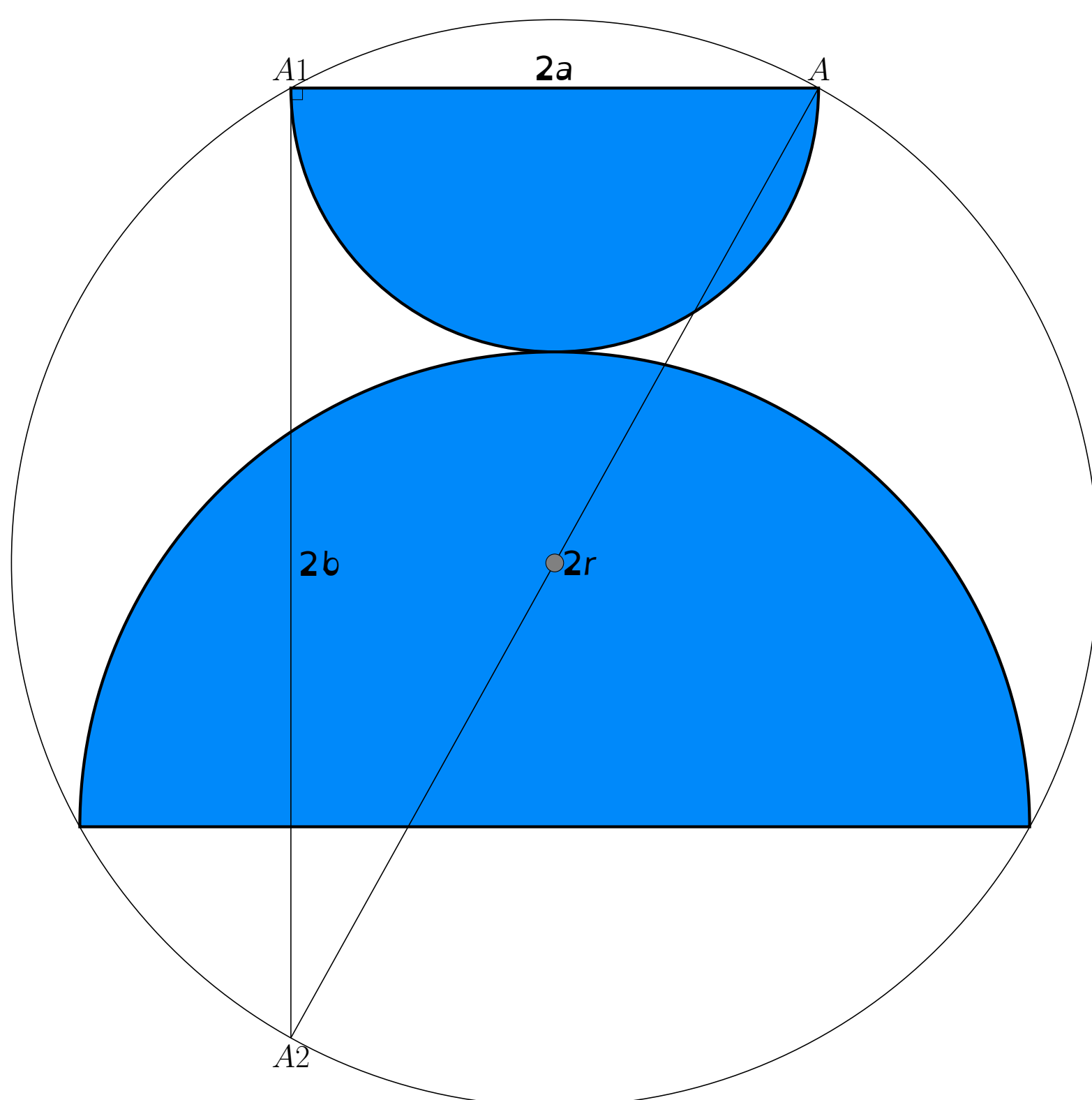# Un fatto curioso sui semicerchi

Teorema delle corde

$$A_1H : HB = B_1H : HA2$$

$$A_1H = a + b = HB \Rightarrow b - a = B_1H = HA_2 = x$$

Teorema di Pitagora

$$(2a)^2 + (2b)^2 = (2r)^2 \Rightarrow a^2 + b^2 = r^2$$

$$A_a = \tfrac{1}{2}\pi a^2, \qquad A_b = \tfrac{1}{2}\pi b^2$$

$$A_c = \tfrac{1}{2}\pi r^2$$

$$A_a + A_b = \tfrac{1}{2}\pi(a^2 + b^2) = \tfrac{1}{2}\pi r^2 = \tfrac{1}{2}A_c, \ \forall a, b \in \mathbb{R}$$