

For some fixed $0 < q < 1/2$ choose two more points c, d within $[a, b]$ by

$$c = a + q \cdot (b - a)$$

$$d = b - q \cdot (b - a)$$

That is, c is chosen by going $q(b - a)$ to the right of a and d is chosen by going $q(b - a)$ to the left of b .