# How **grid** Responds to Non-Finite Values

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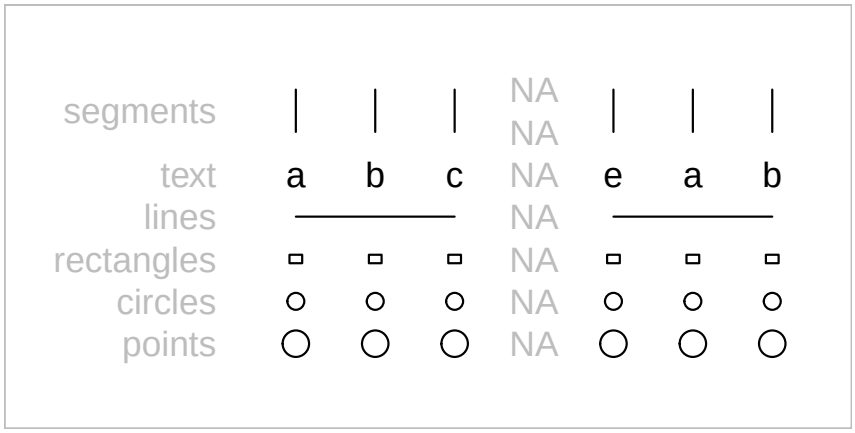
It is possible to include non-finite values, `NA`, `NaN`, `Inf`, and `-Inf`, in specifications of locations and sizes in **grid** functions. This document describes how **grid** responds to non-finite values in different cases.

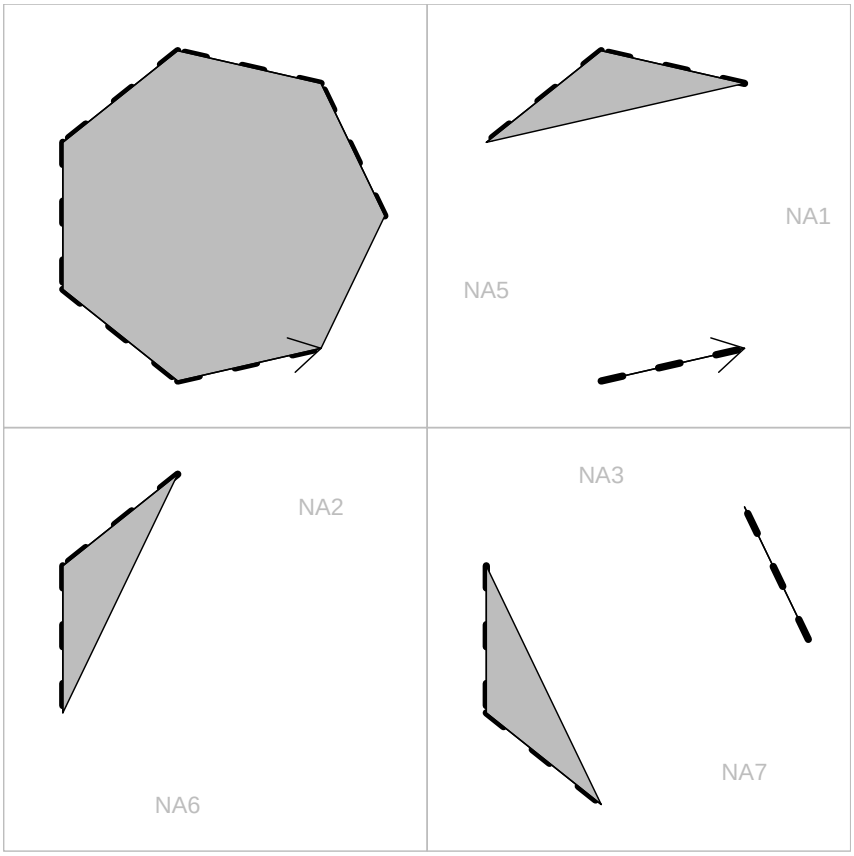
**viewports**
Non-finite values are not permitted in the location, size, or scales of a viewport. Viewport scales are checked when a viewport is created. It is very hard to be certain that locations and sizes are not non-finite when the viewport is created so this is only checked when the viewport is pushed. Non-finite values result in error messages.

**lines**, **segments**, **rectangles**, **text**, **points**, **circles**
For all of these primitives, non-finite values for locations or sizes result in the corresponding primitive not being drawn. The following image provides a simple demonstration. Each primitive is drawn at seven x-locations, with the fourth location made non-finite (as indicated by a grey `"NA"`).



**lineTo**
A line segment is only drawn if the previous location and the new location are both not non-finite.

**polygon**
A non-finite value breaks the polygon into two separate polygons. NOTE that this break happens within the current polygon as specified by the `id` argument. All polygons with the same `id` receive the same `gp` settings.

**arrows**
An arrow head is only drawn if the first or last line segment is drawn.

The following image demonstrates the behaviour of these primitives where x- and y-locations are seven equally-spaced locations around the perimeter of a circle. In the top-left figure, all locations are not non-finite. In each of the other figures, two locations have been made non-finite (indicated in each case by grey text).