Algorithm: Midpoint Ellipse Drawing

Step 1: Start and take the input ellipse parameters: radii (r_x), (r_y) and center $((x_c, y_c))$.

Step 2: Compute squared values:
$(r_x^2 = r_x \times r_x)$ and $(r_y^2 = r_y \times r_y)$.

Step 3: Initialize the starting point:
$(x = 0)$, $(y = r_y)$.

Step 4: Plot the four symmetric points of the ellipse at (x, y) around the center (x_c, y_c).

Step 5: Region 1 processing (while $2r_y^2 x <= 2r_x^2 y$):

Initialize decision parameter
$(p_1 = r_y^2 - r_x^2 r_y + 0.25\ r_x^2)$

For each step:

Increment $(x = x + 1)$.

If $(p_1 < 0)$:
$(p_1 = p_1 + 2r_y^2 x + r_y^2)$

Else:
$(y = y - 1)$
$(p_1 = p_1 + 2r_y^2 x + r_y^2 - 2r_x^2 y)$

Plot symmetric points.

Step 6: Region 2 processing (while $(y > 0)$):

Initialize decision parameter
$(p_2 = r_y^2 (x+0.5)^2 + r_x^2 (y-1)^2 - r_x^2 r_y^2)$

For each step:

If $(p_2 > 0)$:
$(y = y - 1)$
$(p_2 = p_2 + r_x^2 - 2r_x^2 y)$

Else:
$(x = x + 1)$, $(y = y - 1)$
$(p_2 = p_2 + 2r_y^2 x + r_x^2 - 2r_x^2 y\ )$

Plot symmetric points.

Step 7: Continue plotting until $(y = 0)$ and all ellipse points are generated.

Step 8: End.