

In decimal64 arithmetic, the function $1/\sqrt{x^2 + y^2}$ has two midpoints in the range $[10^{-16}, 10^{-15})$, denoted by z_1 and z_2 . The pairs of floating-point numbers x and y such that $1/\sqrt{x^2 + y^2}$ equals z_1 or z_2 are listed below.

$$z_1 = 1.1920928955078125 \cdot 10^{-16}$$

$$z_2 = 5.9604644775390625 \cdot 10^{-16}$$

x	y	z
8053063680000000	2348810240000000	z_1
6710886400000000	5033164800000000	
7851737088000000	2952790016000000	
7073274265600000	4509715660800000	
6309843828736000	5527622909952000	
8208004625203200	1731301317017600	
7605184490373120	3539761721507840	
7394920071430144	3960290559393792	
8364448808960000	636192030720000	
8388608000000000	0	
1342177280000000	1006632960000000	z_2
1261968765747200	1105524581990400	
1610612736000000	469762048000000	
1570347417600000	590558003200000	
1414654853120000	901943132160000	
1672889761792000	127238406144000	
1641600925040640	346260263403520	
1521036898074624	707952344301568	
1677721600000000	0	