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quadrant

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Entry type	Definition
Classification	msc 51N20
Synonym	quarter-plane
Related topic	RightAngle
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Related topic	Octant
Defines	1st quadrant
Defines	2nd quadrant
Defines	3rd quadrant
Defines	4th quadrant

The x - and y -axes divide the xy -plane in four right-angle domains which are called the *quadrants* of the plane. They are numbered going round the origin in anticlockwise direction so that

$$\{(x, y) \mid x > 0, y > 0\}$$

is the *first quadrant*,

$$\{(x, y) \mid x < 0, y > 0\}$$

the *second quadrant*, and so on.

Naturally, one can speak of the quadrants of the complex plane, too.

The lines $y = \pm x$ have as their slope angles $\pm 45^\circ$, thus halving the quadrant angles; they are called the *quadrant bisectors*. Cf. angle bisector as locus.