Sundials 2

Laurence D. Finston

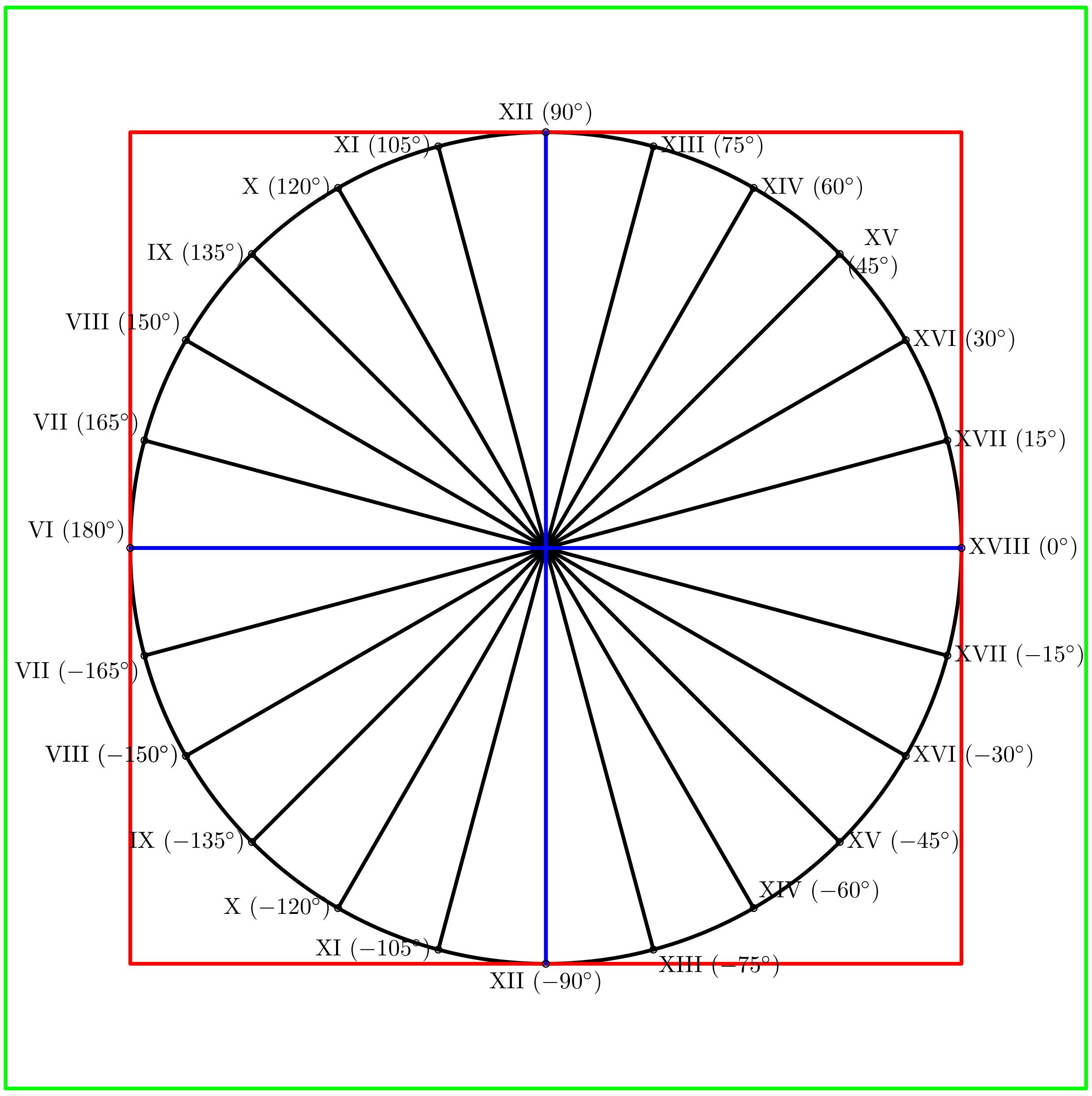
Last updated: October 7, 2007

Contents

Projection onto Equatorial Plane (Same for Any Latitude) 1
Latitude 41° 54′ N (Chicago, Illlinois, USA)
- Perspective projection 2
- Vertical Dial, Facing Due South 3
- Horizontal Dial 4

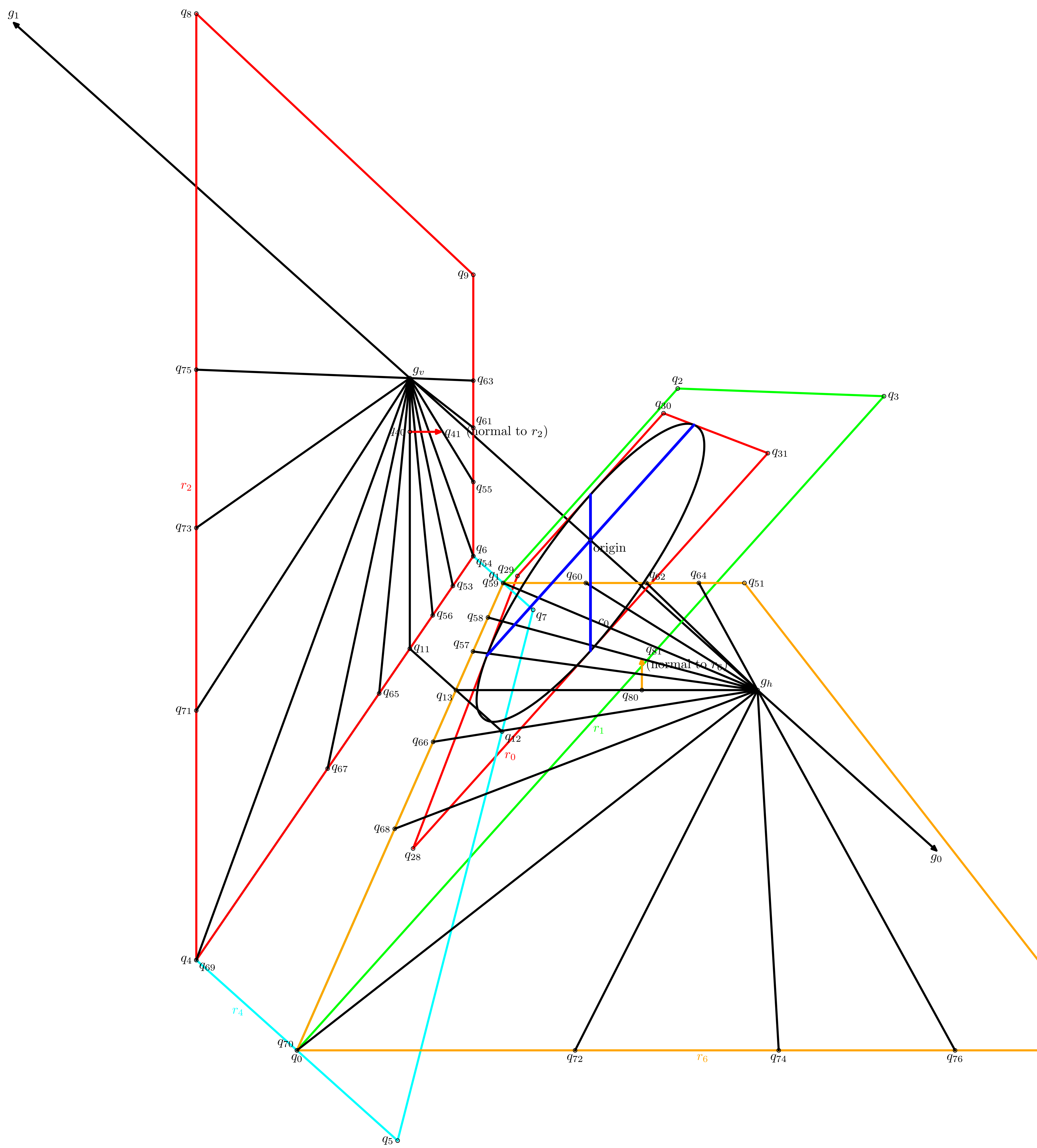
Latitude 51° 30′ 28″ N (London, UK)
- Perspective projection 5
- Vertical Dial, Facing Due South 6
- Horizontal Dial 7

Latitude 51° 32′ N (Göttingen, Germany)
- Perspective projection 8
- Vertical Dial, Facing Due South 9
- Horizontal Dial 10



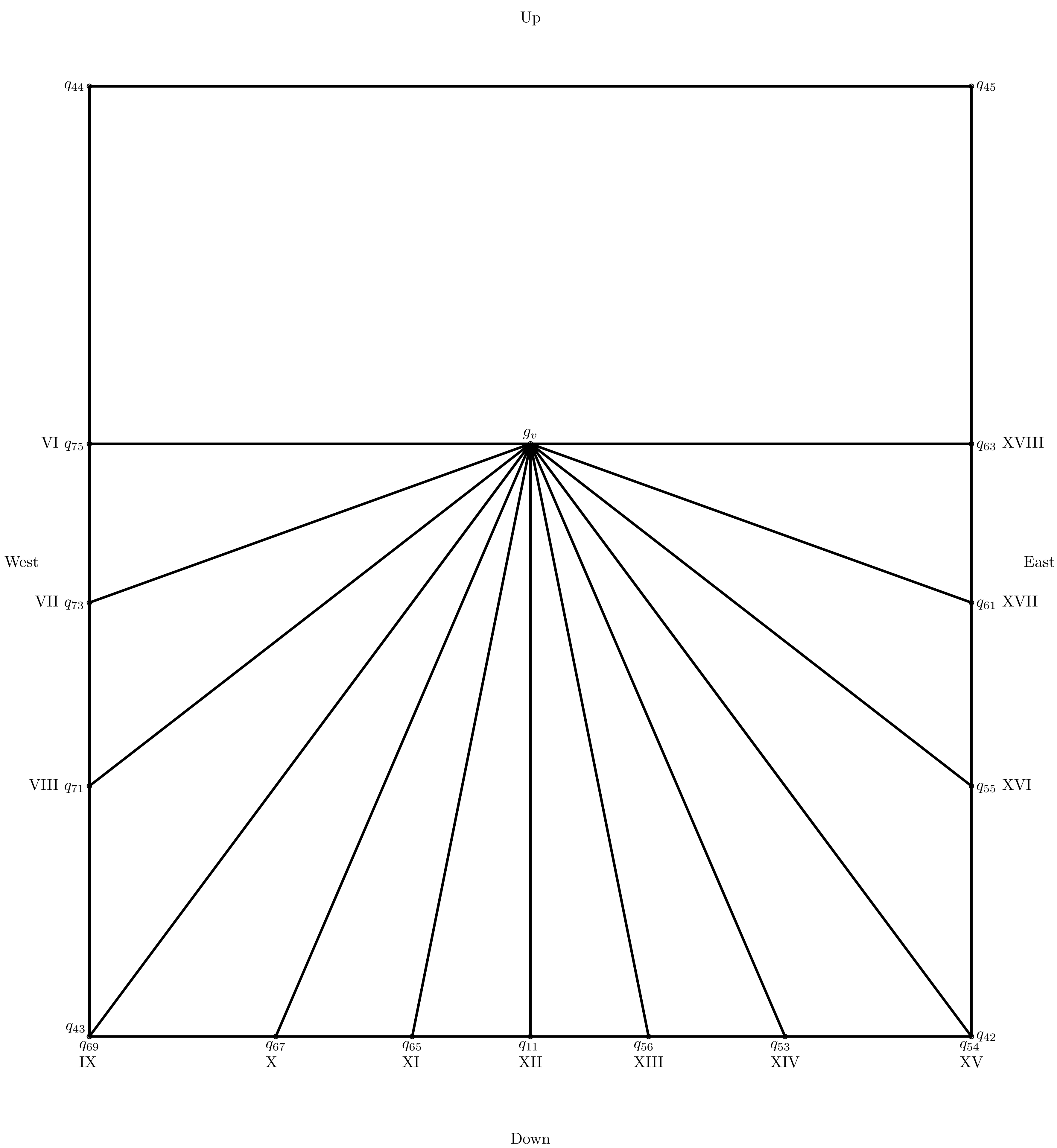
Parallel projection onto plane of equatorial dial (plane of c_0, r_0 and r_1)
Same for any latitude

Chicago, Illinois, USA 41° 54′ N, 87° 39′ W



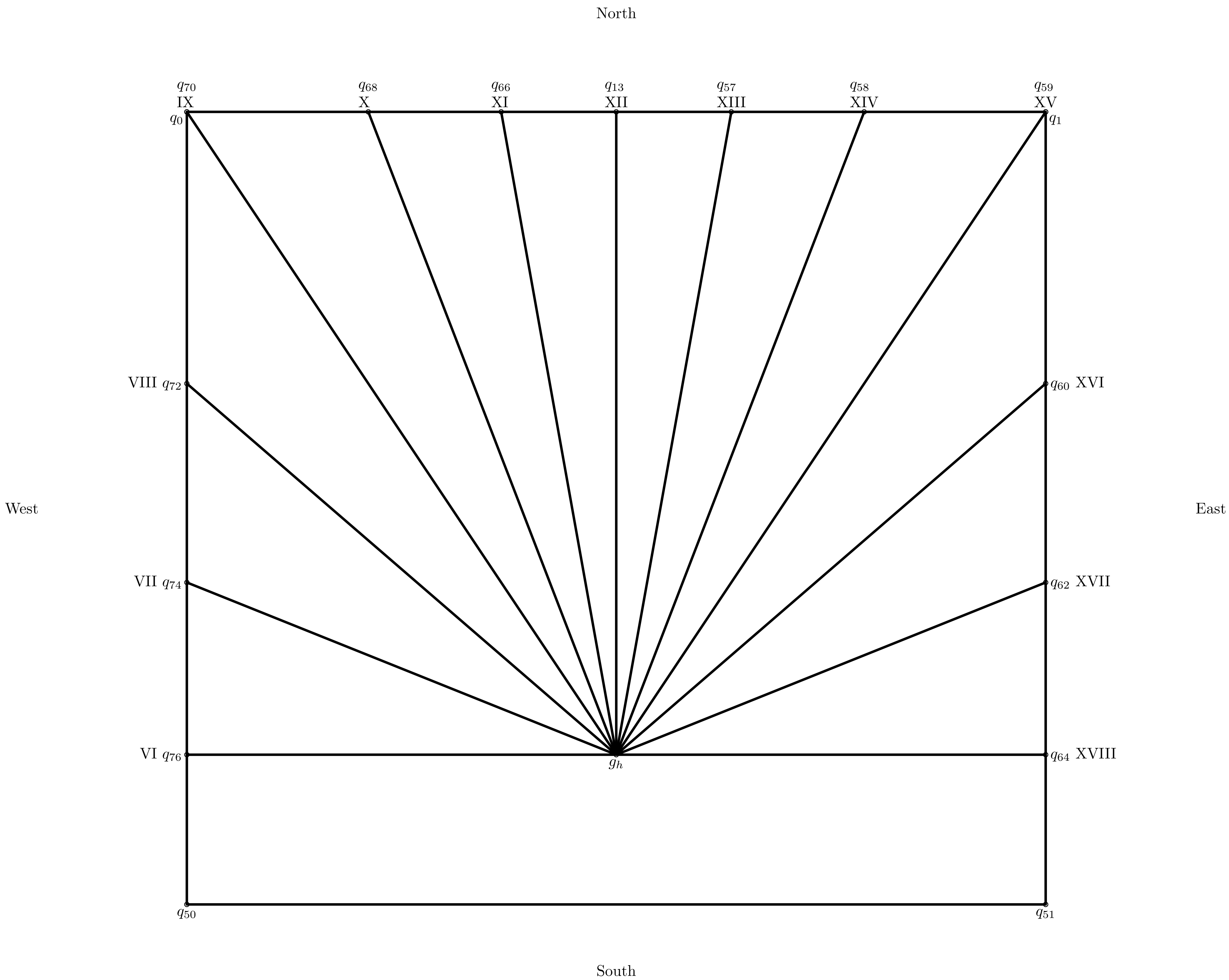
Perspective projection
Latitude 41° 54′ N (Chicago, Illinois, USA)
Focus: position $= (0, 5, -12)$, direction $= (0, 5, 10)$, distance $= 10$
(dimensions in centimeters)

Chicago, Illinois, USA 41° 54′ N, 87° 39′ W



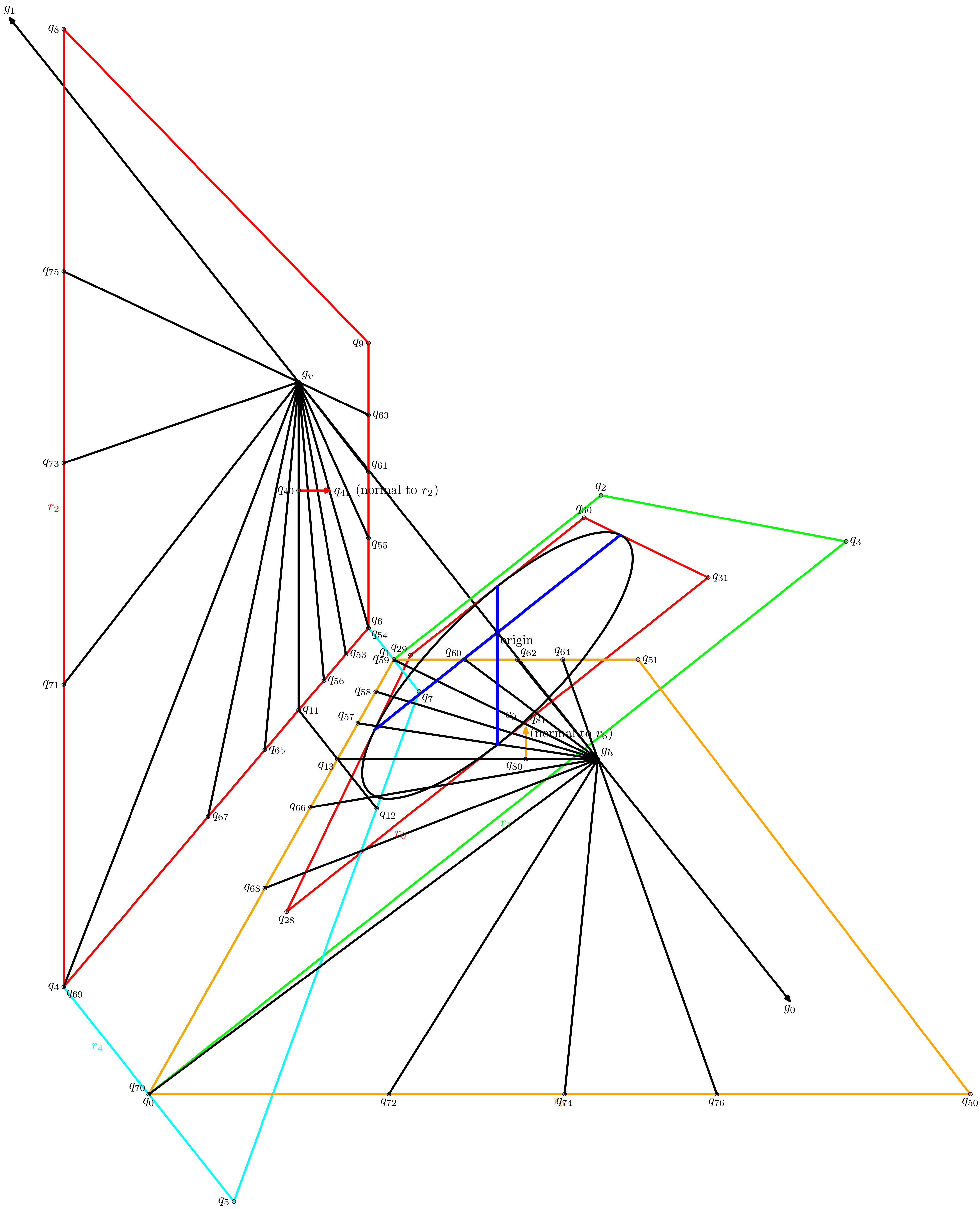
Parallel projection onto the vertical plane (plane of r_1)
Vertical dial facing due south
Latitude 41° 54′ N (Chicago, Illinois, USA)

Chicago, Illinois, USA 41° 54′ N, 87° 39′ W



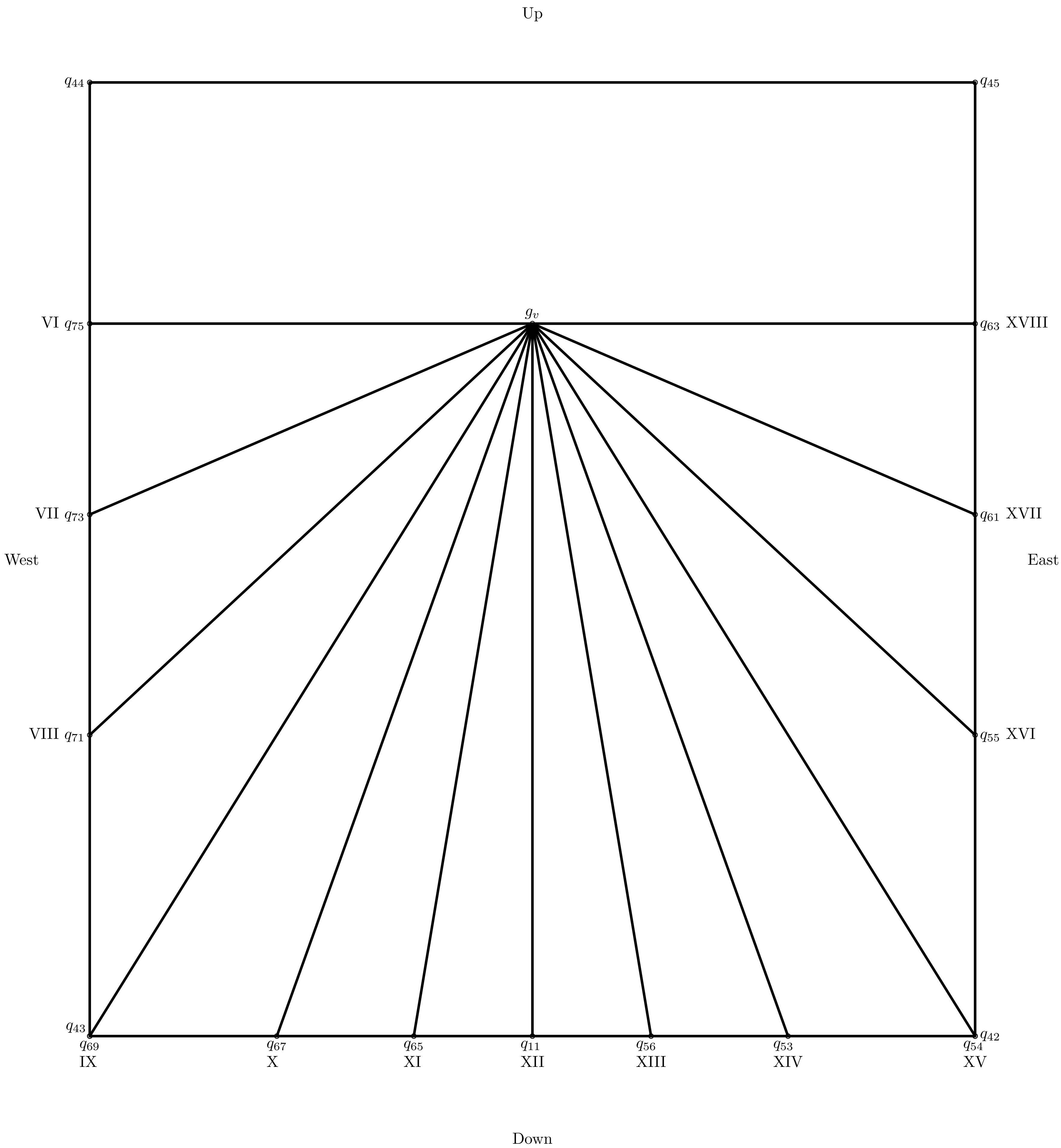
Parallel projection onto the horizontal plane (plane of r_6)
Horizontal dial
Latitude 41° 54′ N (Chicago, Illinois, USA)

London, UK 51° 30′ 28″ N, 0° 7′ 41″ W



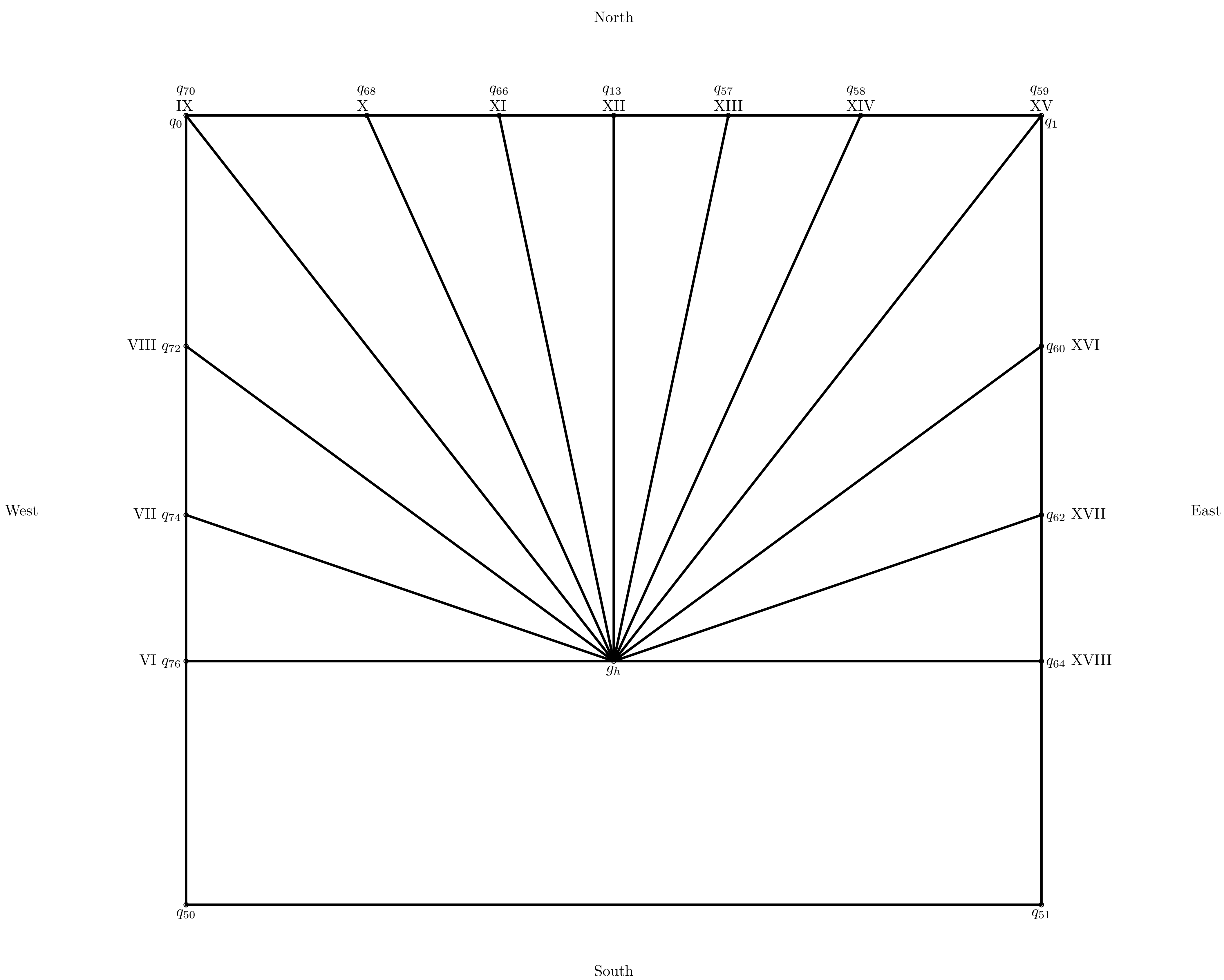
Perspective projection
Latitude 51° 30′ 28″ N (London, UK)
Focus: position $= (0, 5, -12)$, direction $= (0, 5, 10)$, distance $= 10$
(dimensions in centimeters)

London, UK 51° 30′ 28″ N, 0° 7′ 41″ W



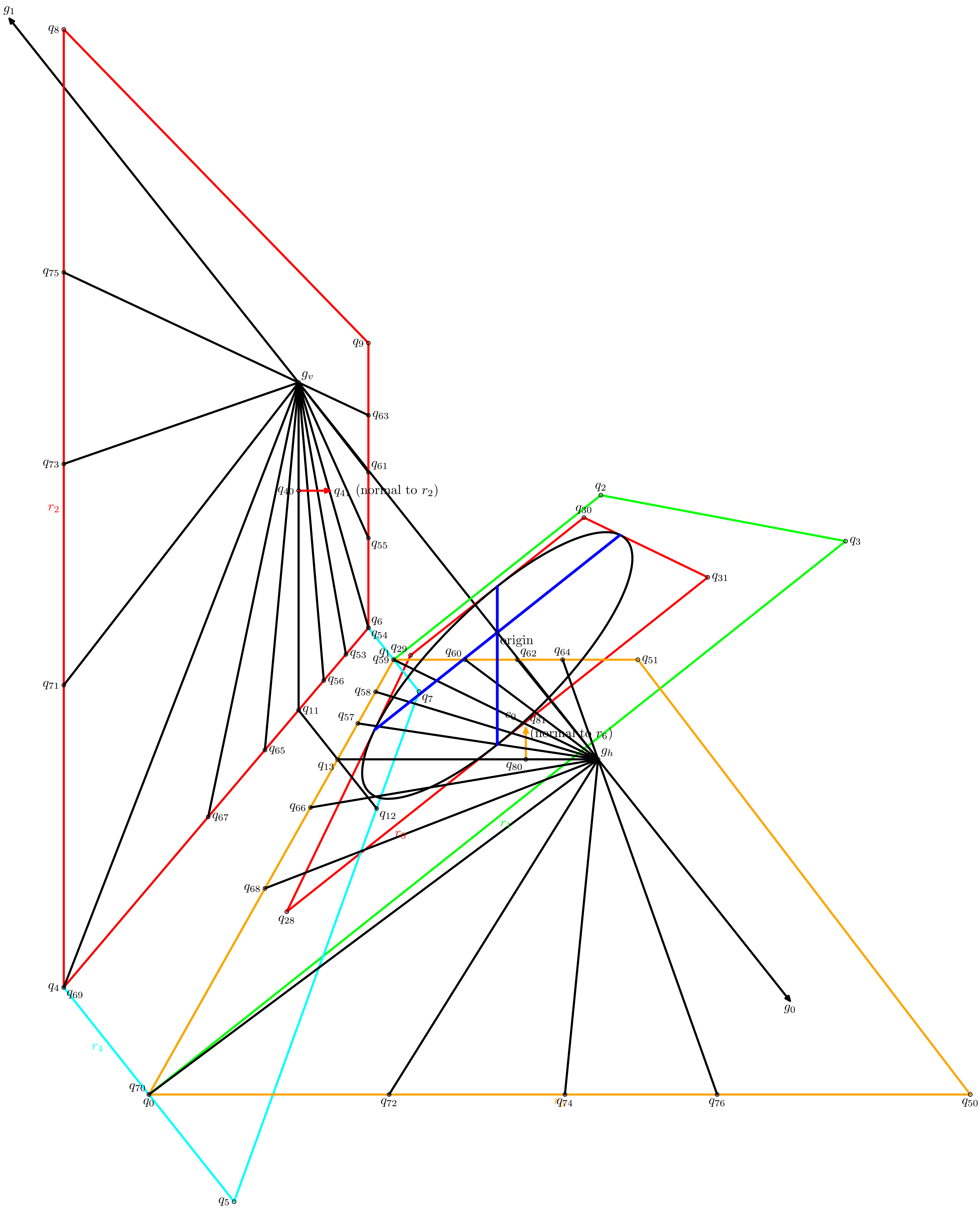
Parallel projection onto the vertical plane (plane of r_1)
Vertical dial facing due south
Latitude 51° 30′ 28″ N (London, UK)

London, UK 51° 30′ 28″ N, 0° 7′ 41″ W



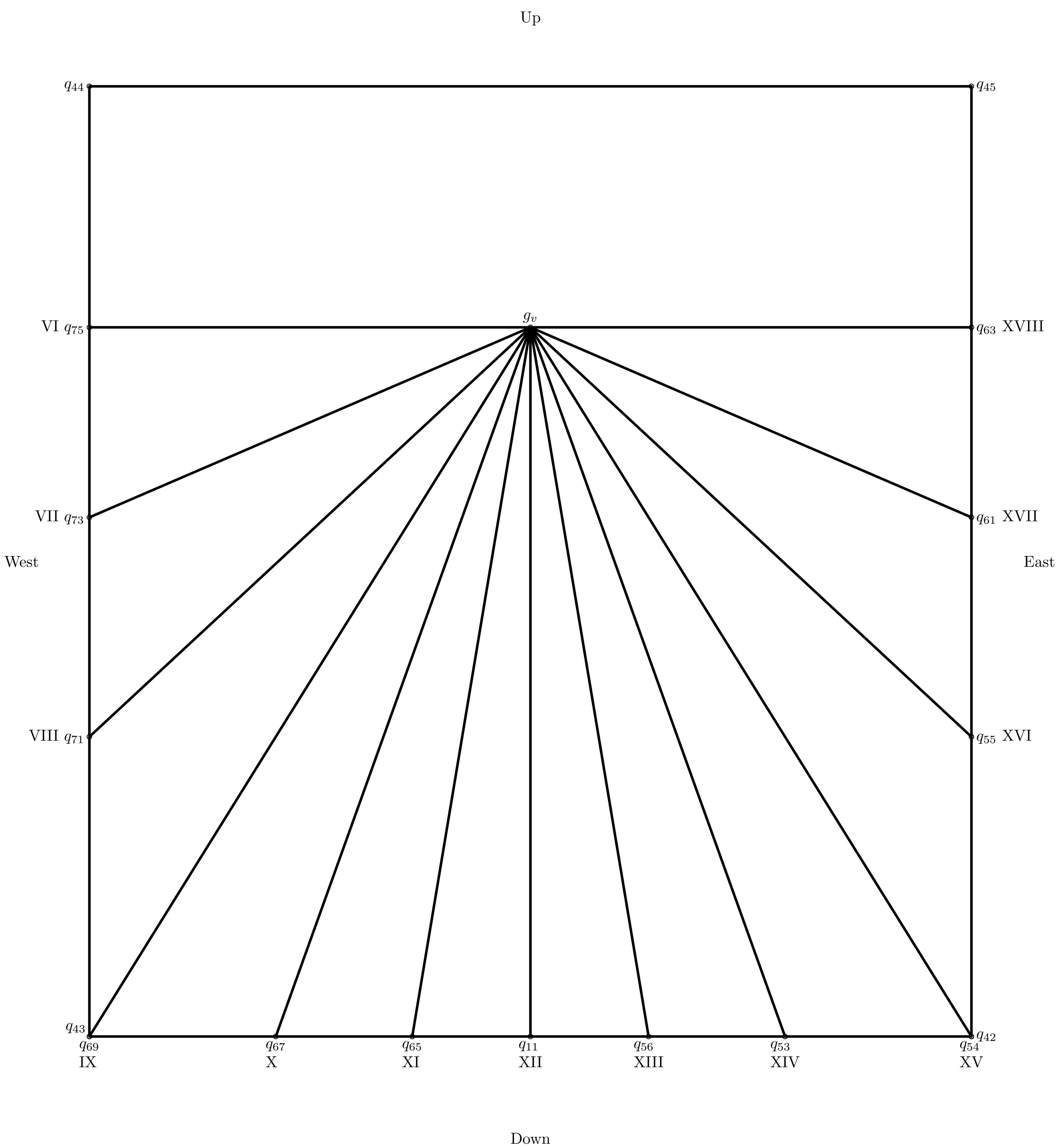
Parallel projection onto the horizontal plane (plane of r_6)
Horizontal dial
Latitude 51° 30′ 28″ N (London, UK)

Göttingen, Germany 51° 32′ N, 9° 56′ E



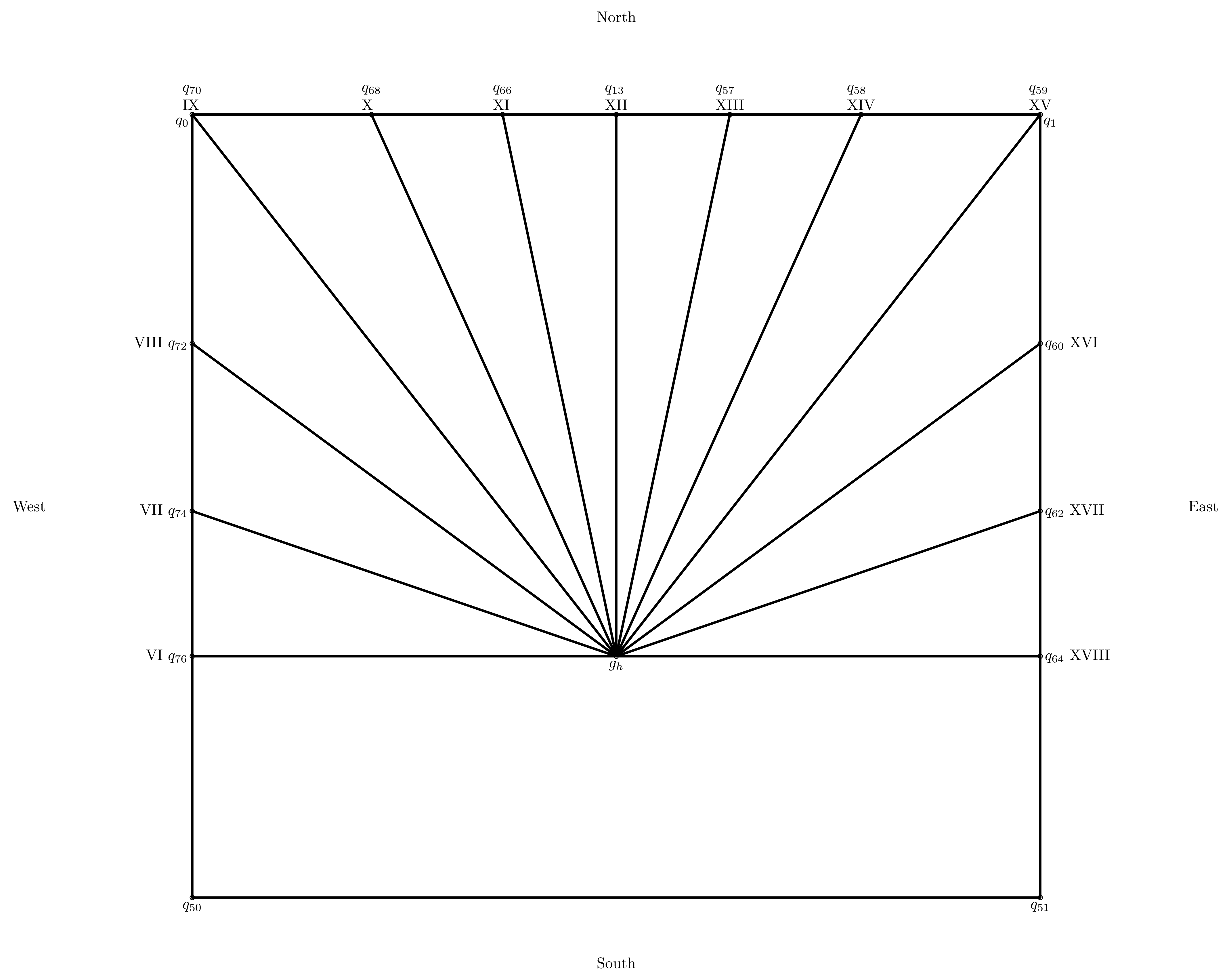
Perspective projection
Latitude 51° 32′ N (Göttingen, Germany)
Focus: position = $(0, 5, -12)$, direction = $(0, 5, 10)$, distance = 10
(dimensions in centimeters)

Göttingen, Germany 51° 32′ N, 9° 56′ E



Parallel projection onto the vertical plane (plane of r_1)
Vertical dial facing due south
Latitude 51° 32′ N (Göttingen, Germany)

Göttingen, Germany 51° 32′ N, 9° 56′ E



Parallel projection onto the horizontal plane (plane of r_6).
Horizontal dial
Latitude 51° 32′ N (Göttingen, Germany)