-continued

$\overline{D}$							x [mm]	ΔD						
−24	−20	−16	−12	−8	−4	0		0	4	8	12	16	20	24
				8.33	8.82	9.00	−24	0.00	0.37	1.34				

A = 3.0

$$k(y) = 3 + \frac{7}{1 + e^{-3(y+1.8)}}$$

$$a(y) = \frac{52.5}{6 + (1 + e^{-3(y-1)-30})}$$

$\overline{D}$							x [mm]	ΔD						
−24	−20	−16	−12	−8	−4	0		0	4	8	12	16	20	24
							y [mm]							
				6.01	6.00	6.00	24	0.00	0.00	0.02				
		6.04	6.03	6.01	6.01	6.00	20	0.00	0.01	0.02	0.04	0.06		
	6.06	6.05	6.03	6.02	6.01	6.01	16	0.00	0.01	0.02	0.03	0.04	0.05	
	6.08	6.07	6.05	6.03	6.02	6.01	12	0.00	0.02	0.04	0.05	0.05	0.03	
6.16	6.14	6.12	6.09	6.06	6.04	6.03	8	0.00	0.06	0.11	0.14	0.17	0.18	0.19
6.29	6.27	6.23	6.17	6.12	6.09	6.08	4	0.00	0.13	0.26	0.37	0.46	0.52	0.55
6.51	6.47	6.40	6.33	6.25	6.20	6.18	0	0.00	0.30	0.57	0.81	0.99	1.11	1.74
6.54	6.52	6.49	6.45	6.42	6.40	6.39	−4	0.00	0.53	0.93	1.33	1.53	1.63	1.65
5.75	5.85	6.03	6.26	6.40	6.65	6.70	−8	0.00	0.60	1.07	1.30	1.27	1.00	0.69
	5.35	5.70	6.13	6.54	6.84	6.95	−12	0.00	0.26	0.46	0.55	0.51	0.35	
	6.03	6.23	6.50	6.75	6.93	6.70	−16	0.00	0.10	0.38	0.75	1.14	1.41	
		6.32	6.55	6.77	6.94	7.00	−20	0.00	0.12	0.45	0.91	1.37		
				6.77	6.94	7.00	−24	0.00	0.13	0.47				

A = 1.0
k = const
= 10
a = const
r_F = 8.68

$\overline{D}$							x [mm]	ΔD						
−24	−20	−16	−12	−8	−4	0		0	4	8	12	16	20	24
							y [mm]							
				6.06	6.02	6.00	24	0.00	0.03	0.12				
		6.22	6.13	6.06	6.02	6.00	20	0.00	0.03	0.11	0.24	0.42		
	6.22	6.23	6.13	6.06	6.02	6.00	16	0.00	0.03	0.10	0.22	0.38	0.32	
	6.08	6.28	6.17	6.09	6.04	6.00	12	0.00	0.04	0.10	0.19	0.30	0.15	
6.44	6.53	6.39	6.24	6.14	6.07	6.05	8	0.00	0.09	0.17	0.25	0.32	0.48	0.48
7.11	6.83	6.60	6.40	6.25	6.15	6.12	4	0.00	0.20	0.40	0.59	0.76	1.25	1.43
7.64	6.61	6.89	6.63	6.43	6.31	6.27	0	0.00	0.42	0.83	1.22	1.59	3.06	2.21
5.74	6.93	6.81	6.70	6.61	6.56	6.54	−4	0.00	0.63	1.22	1.75	2.18	2.49	4.36
5.35	5.75	6.12	6.43	6.66	6.80	6.85	−8	0.00	0.49	1.02	1.61	2.27	2.99	3.75
	6.28	6.52	6.72	6.87	6.96	6.90	−12	0.00	0.11	0.31	0.60	0.98	1.44	
	6.97	6.98	7.00	7.00	7.00	7.00	−16	0.00	0.00	0.01	0.02	0.02	0.04	
		7.00	7.00	7.00	7.00	7.00	−20	0.00	0.00	0.00	0.00	0.01		
				7.00	7.00	7.00	−24	0.00	0.00	0.00				

A = 1.0
k = const
= 3
a = const
r_N = 7.52

While embodiments of the invention have been described in detail, it will be obvious to those skilled in the art that the invention may be otherwise embodied without departing from the spirit and scope.

We claim:

1. A lens for eyeglasses, comprising a surface having an upper distance vision portion FT containing a far reference point B_F and given average distance-vision portion surface refractive powers $\overline{D}_F$, said surface having a lower near-vision portion NT containing a near reference point B_N given average near-vision surface refractive powers $\overline{D}_N$, said surface having a progression region PB located between said distance portion FT and said near portion NT with average surface refractive powers $\overline{D}_P$ which effect a smooth transition from said distance portion FT to said near portion NT, said surface being divided into a temporal portion and a nasal portion by a principal meridian M which forms an umbilical point line, characterized in that said surface fits the following equation in a cylindrical system of coordinates (y, ρ, ϕ):

$$\rho(\phi,y) = \sum_{n=0}^{\infty} a_n(y) \cos [n\, k(y)\phi]$$

wherein all $a_n(y)$ are chosen such that