

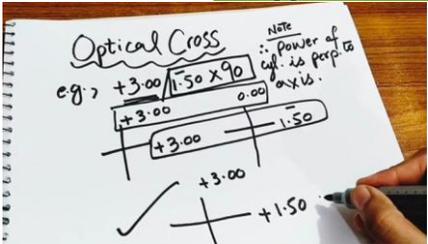


EyeSystems

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No audio or video recording permitted

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Optical Cross

eg. $+3.00 / 1.50 \times 90$

NOTE: Power of cyl. is perpendicular axis.

$+3.00$ -1.50

$+3.00$ $+1.50$

Optical Crosses...I Don't Get It

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The things we say..

- OD - Oculus Dexter
 - Right eye
- OS - Oculus Sinister
 - Left eye
- OU - Oculus Uniter
 - Both Eyes



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The things we say...

- Myopia- Nearsighted
- Hyperopia - Farsighted
- Spherical
- Sphero-cylinder
 - Compound
 - Toric
- Astigmatism
 - Simple
 - Compound
 - Hyperopic
 - Myopic
 - Mixed
 - Oblique



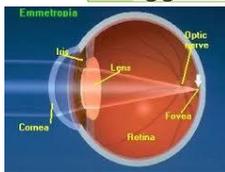
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Things we MUST watch

- In the Written Prescription
- Decimal Points
- Zeros for power
- Axis

Glasses Prescription					
	Sphere	Cylinder	Axis	Prism	Base
DISTANCE	00	-4.00		0.5	down
	05	-5.00	-0.50	180	0.5 up
ADD	00	+2.00			
	05	+2.00			

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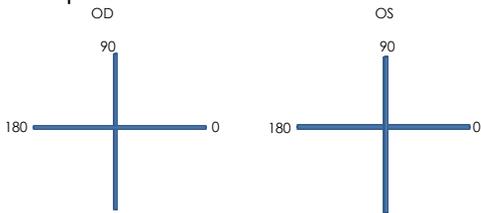
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SPHERICAL LENSES



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Optical Cross



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Minus Spheres

- **OD -2.00 Sph OS -2.50 Sph**
- What kind of lens is prescribed?
 - Myopia, nearsighted
- What will the lens cause the light rays to do?
 - Diverge

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Minus Spheres

OD -2.00 sphere OS -2.50 sphere

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Minus Spheres

- OD -2.00 Sph OS -2.50 Sph
- What happens in a frame with a large eye size?
 - Watch thickness
- If this is a first prescription, what will the patient notice?
 - Objects appear smaller
 - Patient feels taller

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Plus Spheres

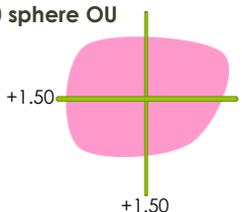
- OD +1.50 Sph OS +1.50 Sph
- What kind of lens is prescribed?
 - Hyperopic, farsighted
- What will the lens cause the light rays to do?
 - Converge

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Plus Spheres

- +1.50 sphere OU



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Plus Spheres

- OD +1.50 Sph OS +1.50 Sph
- What happens in a frame with a large eye size?
 - Watch thinness
- If this is a first prescription, what will the patient notice?
 - Objects appear larger
 - Patient feels shorter

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COMPOUND - Astigmatism

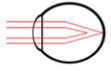


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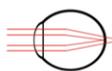
Types of Astigmatism

Refractive types of regular Astigmatism:

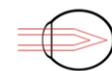
A, Simple myopic.



B, Simple hypermetropic.



C, Compound myopic.



D, Compound hypermetropic.



E, Mixed



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Lenses for Astigmatism

OD +2.00 - 0.75 x 094 OS +1.75 - 0.50 x 083

What type of ametropia is this correcting?

- Compound Hyperopic Astigmatism

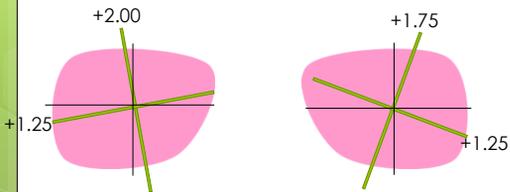
What kind of lens is this?

- Sphero-cylinder

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Lenses for Astigmatism

OD +2.00 - 0.75 x 094 OS +1.75 - 0.50 x 083



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Lenses for Astigmatism

- OD +2.00 - 0.75 x 094 OS +1.75 - 0.50 x 083
- What happens in a frame no eyewire?
 - Watch edge thickness
- If this is a first prescription, what will the patient notice?
 - Objects appear larger
 - Patient feels shorter

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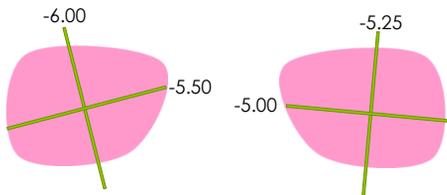
Lenses for Astigmatism

- OD -5.50 -0.50 x 004 OS -5.00 -0.25 x 178
- What type of astigmatism is this?
 - Compound Myopic

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Lenses for Astigmatism

- OD -5.50 -0.50 x 004 OS -5.00 -0.25 x 178



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Trick

- -5.00 -0.25 x 178
- -5.00 is at axis 178 where is the cyl position?
 - Add the first two digits of the axis together then bring down the third digit
 - $1+7 = 8$ bring down the third digit
 - Cyl is at axis 88
- -5.50 -0.50 x 004
- -5.50 is at axis 004 where is the cyl position?
- If zeros decrease first two numbers then bring down the third number
- $00 = 9$ bring down the third digit
- Cyl is at axis 94

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Lenses for Astigmatism

- OD -5.50 -0.50 x 004 OS -5.00 -0.25 x 178
- Where is the thickest part of each lens?
 - 180 degrees
- What would you want to do when selecting a frame?
 - Center the optical center horizontally

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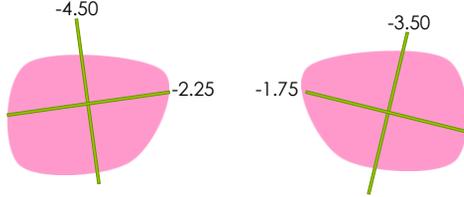
Lenses for Astigmatism

- OD -2.25 -2.25 x 005 OS -1.75 -1.75 X 175
- What type of astigmatism is this?
 - Compound Myopic
- Where is the light focusing in the eye?
 - Both in front of the retina

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Lenses for Astigmatism

OD -2.25 -2.25 x 005 OS -1.75 -1.75 x 175



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Lenses for Astigmatism

OD -2.25 - 2.25 x 005 OS -1.75 -1.75 X 175

- Where is the thickest part of the lens?
 - 90 degree line at the edges

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Lenses for Astigmatism

OD +3.00 - 6.00 x 180 OS +2.50 - 5.00 x 180

- What type of ametropia is this?
 - Mixed
- Where is the light focusing in the eye?
 - One in front and one behind

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Lenses for Astigmatism

● OD +3.00 - 6.00 x 180 OS +2.50 - 5.00 x 180

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Lenses for Astigmatism

● OD +3.00 - 6.00 x 180 OS +2.50 - 5.00 x 180

- Would you fit this patient in an aviator shape frame?
- Where is the thinnest part of the lens
 - 45 line at the edges

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Draw an Optical Cross

+4.50 - 2.50 x 037

-2.25 - 3.00 x 012

+1.25 - 0.25 x 160

-0.50 - 4.50 x 070

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Questions