

# BACK VERTEX DISTANCE CALCULATOR INSTRUCTIONS

Copy of instructions on reverse side of calculator

## INSTRUCTIONS

1. Measure distance between cornea and trial frame lens (TL-BVD)
2. **For spherical plus lenses, use PLUS LENS mm scale**
3. Align the TFBVD measurement marked on the inner wheel to match the refracted power on the Diopter Scale of the outer wheel.
4. Measure distance between cornea and new spectacle frame (F-BVD)
5. The lens power required for the new spectacle frame is the power indicated on the Diopter scale that is aligned with the F-BVD measurement on the Plus Lens mm scale.
6. **For spherical minus lenses, use the MINUS LENS mm scale**
7. Repeat method for plus lenses but use Minus Lens mm scale.
8. **For astigmatic correction**  
+/+ Same procedure as sphere correction as above (No.2.) For cylinder curve add sphere and cyl powers together, calculate total power using circular calculator for spheres as before. Subtract the new sphere power from the new combined power. The result is the new cyl power.

- Trial lens result = +12.00/+4.00 X 90° with BVD at 19mm.  
New frame distance at 10mm  
Using the circular calculator, at 10mm, +12.00D sphere power increases to +13.50D  
New cyl calculation = (+12.00) + (+4.00D) = +16.00D  
Using the circular calculator, at 10mm, +16.00D = +18.75D  
Subtract +13.50D from +18.75D = +5.25
- New resultant power is: +13.50/+5.25 X 90°

### +/- Same procedure as for +/+

- Trial lens result = +12.00/-4.00 X 90° with BVD at 19mm.  
New frame distance at 10mm  
Using the circular calculator, at 10mm, +12.00D sphere power increases to +13.50D  
New cyl calculation = (+12.00D) + (-4.00D) = +8.00D  
Using the circular calculator, at 10mm, +8.00D = +8.62D  
Subtract +8.62 from +13.50D = +4.88D  
To transpose the new plus cyl to minus cyl add 90°
- New resultant power is: +13.50/-4.87D X 180°

### -/- Same procedure as +/-

- Trial lens result = -12.00D/-4.00D X 90° with BVD at 19mm  
New frame distance at 10mm  
Using circular calculator, at 10mm -12.00D sphere power decreases to -10.87D  
New cyl power calculation = (-12.00D) + (-4.00D) = -16.00D  
Using the circular calculator, at 10mm, -16.00D = -14.00D  
Subtract (-14.00) – (-10.13D) = -3.12D
- New resultant power required is: -10.87D/-3.12D X 90°

### -/+ Same procedure as +/- except axis to be transposed by 90°