Vertex distance and pantoscopic angle – a review

CPD QUESTIONS

1 What is the adjusted power in the following prescription?

RE –9.50/–1.50 × 180 LE –10.00/–2.00 × 180

vertex distance at test 13 mm

The spectacle vertex distance measures 8 mm

a) RE –9.50/–1.50 × 180 LE –10.00/–2.00 × 180
b) RE –8.83/–1.28 × 180 LE –9.26/–1.69 × 180
c) RE –9.07/–1.36 × 180 LE –9.52/–1.80 × 180
d) RE –9.97/–1.67 × 180 LE –10.53/–2.24 × 180

2 What is the adjusted power in the following prescription?

RE +9.50/–1.50 × 180 LE +10.50/–2.50 × 180

Add: +2.50 D

vertex distance at test 14 mm

The spectacle vertex distance measures 8 mm

a) RE +10.07/–1.67 × 180 LE +11.21/–2.81 × 180 Add +2.50 D
b) RE +10.28/–1.73 × 180 LE +11.46/–1.69 × 180 Add +2.50 D
c) RE +8.99/–1.36 × 180 LE +9.88/–2.25 × 180 Add +2.50 D
d) RE +9.50/–1.50 × 180 LE +10.50/–2.50 × 180 Add +2.25 D

3 What is the adjusted power in the following diving mask?

RE –8.50/–1.50 × 180 LE –9.00/–2.00 × 180

vertex distance at test 13 mm

The diving mask vertex distance measures 20 mm

a) RE –8.02/–1.33 × 180 LE –8.47/–1.74 × 180
b) RE –8.50/–1.50 × 180 LE –9.00/–2.00 × 180
c) RE –9.07/–1.36 × 180 LE –9.52/–1.80 × 180
d) RE –9.04/–1.71 × 180 LE –9.61/–2.31 × 180

4 What is the adjusted power in the following prescription?

RE –8.00/–4.50 × 180 LE –8.50/–3.25 × 180

vertex distance at test 14 mm

The spectacle vertex distance measures 8 mm

a) RE –7.52/–3.84 × 180 LE –7.96/–3.28 × 180
b) RE –7.63/–4.00 × 180 LE –8.09/–2.88 × 180
c) RE –8.40/–4.11 × 180 LE –8.96/–3.68 × 180
d) RE –8.00/–4.50 × 180 LE –8.50/–3.25 × 180

5 What would the power of a contact lens worn by someone with a prescription of –8.50 D at vertex distance 13 mm? Hint, the vertex distance of a contact lens is effectively zero so the chart will not be of any use.

a) RE –7.65
b) RE –9.56
c) RE –8.50
d) RE –8.00

6 From what power does the British Standard recommend measuring vertex distance and making any necessary adjustments?

a) 5.00 D
b) 6.00 D
c) 7.00 D
d) 8.00 D

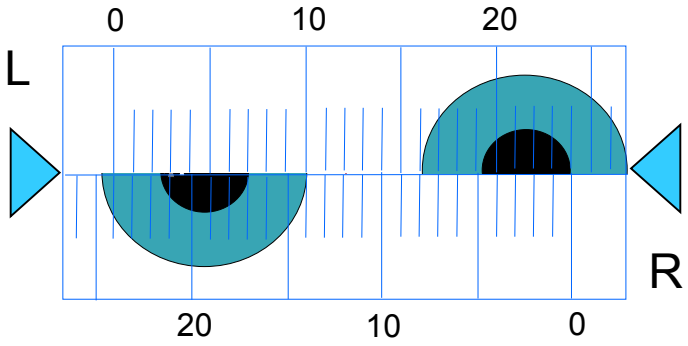
7 Which of the following statements is true?

a) Aspheric lenses do not require a vertex distance measurement
b) Plus lenses fitted closer to the eye must be stronger
c) Minus lenses fitted closer to the eye must be stronger
d) Vertex distance is always 12 mm

8 Which of the following statements is true?

a) Vertex distance is the distance between the corneal apex and the back vertex of the lens in the habitual posture
b) Vertex distance is the distance between the corneal apex and the back vertex of the lens along the visual axis
c) Vertex distance is not required for aspheric lenses
d) Vertex distance is the distance between the corneal apex and the back vertex of the lens along the optical axis of the lens

9 In the drawing of the split prism ruler below what is the vertex distance shown?



a) 10 mm
b) 13 mm
c) 14 mm
d) 17 mm

10 Which of the following statements is true?

a) The optical centre should always be in front of the pupil
b) Heights are not important for single vision lenses
c) The optical centre should be dropped 1 mm below pupil centre for every 2 degrees of tilt
d) The optical centre should be dropped 2 mm below pupil centre for every degree of tilt

11 Where should the optical cross be placed for a progressive lens?

a) The fitting cross should always be in front of the centre of the pupil
b) Heights are not important for progressives
c) The fitting cross should be dropped 1 mm below pupil centre for every 2 degrees of tilt
d) The fitting cross should be dropped 2 mm below pupil centre for every degree of tilt

12 What details are required by the laboratory for as worn lenses in addition to the prescription?

a) Just the monocular PDs and monocular heights
b) Monocular PDs and monocular heights plus vertex distance, pantoscopic angle and face form angle
c) Binocular PDs and binocular heights plus vertex distance, pantoscopic angle and face form angle
d) Monocular PDs and binocular heights plus vertex distance, pantoscopic angle and face form angle

13 How much will a change of 1.00 D in base curve affect the vertex distance?

a) 1 .0 mm
b) 0.8 mm
c) 0.7 mm
d) 0.6 mm

14 If a +6.00 D lens made in 1.600 material is tilted 20 degrees, what is the effective power created?

a) +6.00 D
b) +6.36/+1.38
c) +6.22/+0.82
d) +7.00 D