

ABO Exam Practice Test - Free Study Guide & Optician Test Prep (2025) (Sample)

Study Guide



Everything you need from our exam experts!

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SAMPLE

Questions

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- 1. Which prescription notation indicates cylinder power?**
 - A. The "sph" value in the prescription**
 - B. The "cyl" value in the prescription**
 - C. The "add" value in the prescription**
 - D. The "axis" value in the prescription**
- 2. What is the primary purpose of decreasing pantoscopic tilt in eyeglasses?**
 - A. To improve peripheral vision**
 - B. To reduce glare from overhead lighting**
 - C. To enhance cosmetic appearance**
 - D. To effectively raise the bifocal seg height**
- 3. Which part of the eye consists of the sclera and the cornea?**
 - A. Choroid**
 - B. Retina**
 - C. Iris**
 - D. Fibrous Tunic**
- 4. What does the equation $P^2 \times \text{mm}$ moved divided by 1000 represent?**
 - A. a. Down**
 - B. b. Vertex compensation formula**
 - C. c. Less chromatic aberration**
 - D. d. Wet/dry**
- 5. What type of lens is used primarily to correct myopia?**
 - A. Convex lens**
 - B. Concave lens**
 - C. Aspheric lens**
 - D. Cylindrical lens**

- 6. What does the term "DBL" stand for in the context of opticianry?**
- A. Effective diameter**
 - B. Distance between lenses**
 - C. Diopter baseline limit**
 - D. Dual bifocal lens**
- 7. Which type of person is most bothered by internal reflections in lenses?**
- A. A High Hyperope**
 - B. A High Myope**
 - C. Astigmatism Patient**
 - D. Presbyopia Patient**
- 8. How can polarized lenses improve visual clarity?**
- A. By enhancing color visibility**
 - B. By reducing glare from reflective surfaces**
 - C. By increasing the brightness of images**
 - D. By magnifying objects**
- 9. Exotropia might be corrected with base in which direction?**
- A. In**
 - B. Up**
 - C. Out**
 - D. Down**
- 10. What is the average adult pupil distance?**
- A. 50 to 54 mm**
 - B. 62 to 64 mm**
 - C. 70 to 72 mm**
 - D. 55 to 59 mm**

Answers

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1. B
2. D
3. D
4. B
5. B
6. B
7. B
8. B
9. A
10. B

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Explanations

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1. Which prescription notation indicates cylinder power?

- A. The "sph" value in the prescription
- B. The "cyl" value in the prescription**
- C. The "add" value in the prescription
- D. The "axis" value in the prescription

The notation that indicates cylinder power in an optical prescription is the "cyl" value. This value specifically represents the amount of astigmatism correction needed in the lens. Astigmatism occurs when the eye does not focus light evenly on the retina due to an irregular shape of the cornea or lens, and the cylinder power is crucial to addressing this refractive error. The "sph" value refers to the spherical power in the prescription, which corrects nearsightedness or farsightedness but does not pertain to astigmatism. The "add" value denotes additional power added to the lower part of a multifocal lens, primarily for presbyopia correction, rather than indicating any cylindrical correction. The "axis" value accompanies the cylinder power and specifies the orientation of the astigmatism correction, but it does not represent the strength of the cylinder itself. Thus, the "cyl" value is the essential component for denoting cylinder power in a prescription.

2. What is the primary purpose of decreasing pantoscopic tilt in eyeglasses?

- A. To improve peripheral vision
- B. To reduce glare from overhead lighting
- C. To enhance cosmetic appearance
- D. To effectively raise the bifocal seg height**

Decreasing pantoscopic tilt is done in eyeglasses to effectively raise the bifocal segment height. This helps to provide clear vision for those who need both distance and close-up correction. It is not done for the purpose of improving peripheral vision, reducing glare, or enhancing cosmetic appearance. These are not the primary reasons for decreasing pantoscopic tilt.

3. Which part of the eye consists of the sclera and the cornea?

- A. Choroid
- B. Retina
- C. Iris
- D. Fibrous Tunic**

The fibrous tunic is the outer layer of the eye that is made up of the sclera and the cornea. The sclera is the white outer layer of the eye that provides structure and protection, while the cornea is the clear covering over the front of the eye that helps to focus light into the eye. The choroid, retina, and iris are all part of the middle layer of the eye called the vascular tunic. The choroid helps to provide oxygen and nutrients to the retina, the retina is responsible for converting light into neural signals, and the iris controls the amount of light that enters the eye. Therefore, these options are incorrect as they do not specifically refer to the sclera and cornea, which are the main components of the fibrous tunic.

4. What does the equation $P^2 \times \text{mm}$ divided by 1000 represent?

A. a. Down

B. b. Vertex compensation formula

C. c. Less chromatic aberration

D. d. Wet/dry

The equation $P^2 \times \text{mm}$ divided by 1000 is representative of the vertex compensation formula. This formula is crucial in opticianry as it calculates how much the power of a lens changes as the distance from the lens to the eye changes, particularly in situations where the lens is not positioned at the standard distance (usually 12 mm) from the eye. When considering lenses and their power, it's essential to account for the vertex distance, which can significantly affect how light is focused by the lens onto the retina. The formula captures this relationship effectively, allowing opticians to compensate for any discrepancies caused by the position of the lens, ensuring accurate vision correction for the wearers. This is especially pertinent for higher prescription lenses, where even small changes in vertex distance can have a pronounced effect on visual acuity. Understanding vertex compensation through this formula is vital for providing optimal lens fittings and improving patient satisfaction with their visual correction.

5. What type of lens is used primarily to correct myopia?

A. Convex lens

B. Concave lens

C. Aspheric lens

D. Cylindrical lens

Myopia, commonly known as nearsightedness, occurs when the eye's shape causes light rays to focus in front of the retina rather than directly on it. This results in distant objects appearing blurry while close objects can be seen clearly. To correct this condition, a concave lens is used. Concave lenses are thinner at the center and thicker at the edges, which helps diverge light rays before they enter the eye. This divergence of light allows the rays to focus further back, directly on the retina, thereby improving the clarity of distant vision for someone with myopia. In contrast, convex lenses, which are thicker in the center, are used to correct hyperopia (farsightedness) as they converge light rays to bring the focus closer to the eye. Aspheric lenses are designed to enhance optical performance and reduce aberrations, but they are not specifically aimed at correcting myopia. Cylindrical lenses are used for astigmatism, a condition where the light is not focused evenly on the retina due to an irregularity in the cornea or lens shape. Thus, the use of a concave lens specifically addresses the focal point issue associated with myopia, making it the appropriate choice for correction in this case.

6. What does the term "DBL" stand for in the context of opticianry?

- A. Effective diameter**
- B. Distance between lenses**
- C. Diopter baseline limit**
- D. Dual bifocal lens**

DBL stands for "Distance between lenses", which refers to the horizontal distance between the two lenses of a pair of glasses. Option A, "Effective diameter", is incorrect because this refers to the lens diameter, not the distance between them. Option C, "Diopter baseline limit", is incorrect as it is not a commonly used term in opticianry. Option D, "Dual bifocal lens", is also incorrect because this term does not encompass the specific measurement of the distance between lenses.

7. Which type of person is most bothered by internal reflections in lenses?

- A. A High Hyperope**
- B. A High Myope**
- C. Astigmatism Patient**
- D. Presbyopia Patient**

Individuals with high myopia are more likely to be bothered by internal reflections in lenses due to the configuration of their corrective lenses and the nature of their refractive error. High myopes typically require thicker lenses to achieve the necessary correction for their vision. These thicker lenses can cause increased internal reflections, which may result in distracting glare and visual disturbances. In myopia, the eyeball is often elongated, causing images to focus in front of the retina. To correct this, lenses must be made thicker, especially at the edges, leading to pronounced internal light reflections that can interfere with visual clarity and comfort. This heightened sensitivity to reflections can become particularly noticeable in high prescriptions, making it a significant concern for high myopes compared to individuals with other types of refractive errors. While other conditions such as high hyperopia, astigmatism, or presbyopia may also have their own issues related to lens use, the specific issue of internal reflections is particularly pronounced in high myopes due to the nature of lens thickness and light refraction in their glasses.

8. How can polarized lenses improve visual clarity?

- A. By enhancing color visibility
- B. By reducing glare from reflective surfaces**
- C. By increasing the brightness of images
- D. By magnifying objects

Polarized lenses improve visual clarity primarily by reducing glare from reflective surfaces. This type of glare often originates from horizontal surfaces such as water, roads, or snow, which can obscure vision and lead to discomfort while looking at bright environments. When light reflects off these surfaces, it can become polarized, meaning that it oscillates predominantly in one direction. Polarized lenses are designed with a special filter that blocks this horizontally polarized light, significantly minimizing the amount of glare that reaches the eyes. Consequently, this reduces eye strain and increases comfort while enhancing the overall quality of vision, particularly in bright conditions. While enhancing color visibility and increasing brightness of images may provide some benefits in visual perception, these effects are not the primary function of polarized lenses. Similarly, magnification is not a characteristic of polarized lenses; rather, it is obtained through different optical means.

9. Exotropia might be corrected with base in which direction?

- A. In**
- B. Up
- C. Out
- D. Down

When addressing exotropia, which is a type of strabismus where one or both eyes turn outward, the correction typically involves the prismatic effect of glasses. The appropriate direction for the base of the prism to be placed is towards the nose, also referred to as "base in." This creates an optical effect that encourages the eyes to converge as opposed to diverging, effectively helping to align the eyes more centrally. Placing the base of the prism "in" compensates for the outward deviation of the eyes by promoting inward movement. In contrast, options suggesting upward or downward adjustment do not directly address the lateral position of the eyes, while placing the base "out" would not provide the needed corrective action for someone experiencing exotropia. Thus, the strategic placement of the prism with the base inwards directly works to correct the outward deviation characteristic of this condition.

10. What is the average adult pupil distance?

- A. 50 to 54 mm**
- B. 62 to 64 mm**
- C. 70 to 72 mm**
- D. 55 to 59 mm**

The average adult pupil distance, commonly referred to as pupillary distance (PD), typically falls within the range of 62 to 64 mm. This measurement is crucial for optical fittings, as it ensures that lenses are properly aligned with the centers of the pupils. Proper alignment is essential for achieving optimal visual comfort and clarity, particularly in prescriptions for glasses. While individual measurements can vary based on several factors such as age, ethnicity, and individual anatomy, the average range of 62 to 64 mm is widely accepted in the field of optometry. Accurate knowledge of this range assists opticians in providing well-fitted eyewear that accommodates the majority of adult patients, enhancing visual performance and minimizing eyestrain.