

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

Study Guide



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SAMPLE

Questions

SAMPLE

- 1. What is the instrument used to measure lens stress?**
 - A. Phoropter**
 - B. Retinoscope**
 - C. Colmascope**
 - D. Polariscope**
- 2. Which measurement is essential for ensuring proper lens fitting?**
 - A. Pupil Distance (PD)**
 - B. Ocular dominance**
 - C. Corneal thickness**
 - D. Visual acuity**
- 3. What kind of degree might an optician pursue beyond high school?**
 - A. Doctorate in ophthalmology**
 - B. Bachelor's degree in accountancy**
 - C. Associate's degree in optical dispensing**
 - D. Master's in business administration**
- 4. 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**
- 5. Which condition is commonly associated with increased intraocular pressure?**
 - A. Cataract**
 - B. Glaucoma**
 - C. Macular degeneration**
 - D. Refractive error**

- 6. What kind of lens is typically used to correct nearsightedness?**
- A. Bifocal lens**
 - B. Convex lens**
 - C. Concave lens**
 - D. Prism lens**
- 7. What does the bending of light as it passes from a medium of lesser density to a medium of greater density refer to?**
- A. One diopter prism**
 - B. Refraction**
 - C. All colors**
 - D. Electromagnetic Theory**
- 8. What compensatory action is taken if a minus lens is moved further away from the eye?**
- A. Defined as grams per cubic centimeter**
 - B. Applied to the back of the lens with the ridged side out**
 - C. Most children are born hyperopic**
 - D. Increase the lens power or move the lens closer to the eye.**
- 9. What does the term "base curve" refer to in lens design?**
- A. The primary curvature of the lens that affects how it fits on the cornea**
 - B. The color tint applied to the lens surface**
 - C. The thickness of the lens edges**
 - D. The distance between the lens and the eye**
- 10. What type of visual condition does the following prescription correct: +2.00 -1.50 x 180 OU?**
- A. Simple myopic astigmatism**
 - B. Compound myopic astigmatism**
 - C. Simple hyperopic astigmatism**
 - D. Compound hyperopic astigmatism**

Answers

SAMPLE

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

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Explanations

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1. What is the instrument used to measure lens stress?

- A. Phoropter
- B. Retinoscope
- C. Colmascope
- D. Polariscope**

The instrument used to measure lens stress is a polariscope. This device operates on the principle of polarized light and is specifically designed to analyze the optical properties of materials. When light passes through a lens or any transparent medium under stress, it can reveal changes in the light path, which the polariscope can detect. In practical applications, a polariscope is used to evaluate the presence and extent of internal stress in lenses, which can affect their optical performance and durability. By analyzing the interference patterns created by polarized light that passes through the stressed material, an operator can assess any potential imperfections or stresses present in the lens. Other instruments mentioned serve different purposes. For instance, a phoropter is primarily used for refraction to determine a patient's prescription. A retinoscope is utilized to objectively measure refractive errors. The colmascope, meanwhile, is used to measure the power of a lens via collimated light, which doesn't directly correlate to evaluating lens stress. Thus, the selection of the polariscope is based on its specific function in assessing lens integrity and performance under stress conditions.

2. Which measurement is essential for ensuring proper lens fitting?

- A. Pupil Distance (PD)**
- B. Ocular dominance
- C. Corneal thickness
- D. Visual acuity

Pupil Distance (PD) is crucial for achieving a proper lens fitting because it determines the appropriate positioning of the optical centers of the lenses in relation to the wearer's eyes. Accurate measurement of PD ensures that the lenses are aligned with the visual axis, which promotes optimal visual performance and comfort. If the optical centers are misaligned, the wearer may experience various issues such as blurred vision, discomfort, and even eye strain. While ocular dominance can play a role in visual comfort and function, it does not directly influence the physical fitting of the lenses. Corneal thickness is important for assessing other factors such as the suitability for contact lenses or surgical procedures but is not critical for lens fitting itself. Visual acuity, while necessary for understanding a patient's sight level, does not affect how lenses are positioned or fitted on the face. Thus, PD stands out as the essential measurement for ensuring the precision of lens placement and overall eyewear satisfaction.

3. What kind of degree might an optician pursue beyond high school?

- A. Doctorate in ophthalmology**
- B. Bachelor's degree in accountancy**
- C. Associate's degree in optical dispensing**
- D. Master's in business administration**

An associate's degree in optical dispensing is relevant for an optician as it specifically focuses on the technical skills and knowledge needed in the field of opticianry. This degree typically covers subjects such as optical theory, dispensing techniques, patient care, and the management of optical services. By obtaining an associate's degree in optical dispensing, an optician gains the foundational education required to fulfill various roles within the optical industry, including fitting and adjusting glasses and contact lenses, understanding prescription requirements, and providing crucial customer service. This level of education is aimed at equipping opticians with both practical skills and theoretical knowledge, which are essential for a successful career in this profession. The other options, while they represent higher education, do not directly relate to the field of opticianry or the specific skills required for the role. A doctorate in ophthalmology pertains to the medical field and training to become a physician, not an optician. A bachelor's degree in accountancy focuses on financial management and does not provide the necessary training for optical dispensing. Lastly, a master's in business administration may be beneficial for managerial positions in the optical industry but does not directly equip an individual with the technical expertise required for dispensing eyewear.

4. 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.

5. Which condition is commonly associated with increased intraocular pressure?

- A. Cataract**
- B. Glaucoma**
- C. Macular degeneration**
- D. Refractive error**

Glaucoma is a condition characterized by increased intraocular pressure (IOP), which can lead to damage of the optic nerve and potential vision loss if left untreated. This elevated pressure occurs when the aqueous humor, the fluid in the front part of the eye, does not drain properly. The connection between glaucoma and increased IOP is significant; while not all people with high IOP develop glaucoma, and not all glaucoma patients have high IOP, the condition is generally recognized as a major risk factor. Cataracts, macular degeneration, and refractive errors do not typically involve increased intraocular pressure as a defining feature. Cataracts refer to clouding of the lens that affects vision but does not involve pressure issues. Macular degeneration pertains to the deterioration of the retina specifically affecting central vision and is unrelated to IOP. Refractive error refers to common vision issues related to the shape of the eye affecting focus and is also not associated with increased intraocular pressure. Therefore, the unique association of elevated IOP with glaucoma highlights its critical importance in the study and understanding of ocular health.

6. What kind of lens is typically used to correct nearsightedness?

- A. Bifocal lens**
- B. Convex lens**
- C. Concave lens**
- D. Prism lens**

Nearsightedness, also known as myopia, occurs when the eye is too long relative to the focusing power of the cornea and lens, causing distant objects to appear blurry while close objects can be seen clearly. To correct nearsightedness, a concave lens is used. A concave lens is specifically designed to diverge light rays before they reach the eye, effectively allowing the image to be focused on the retina rather than in front of it. By doing so, it helps individuals with myopia to see distant objects more clearly. The other types of lenses mentioned serve different purposes; for instance, bifocal lenses are intended for individuals who need correction for both distance and near vision, convex lenses are generally used to correct farsightedness (hyperopia) by converging light rays, and prism lenses are used to address issues with eye alignment and focus rather than refractive errors like myopia. Thus, the most suitable choice for correcting nearsightedness is indeed the concave lens.

7. What does the bending of light as it passes from a medium of lesser density to a medium of greater density refer to?

- A. One diopter prism**
- B. Refraction**
- C. All colors**
- D. Electromagnetic Theory**

Refraction refers to the bending of light as it passes from a medium of lesser density to a medium of greater density. This phenomenon occurs due to the change in speed of light as it moves from one medium to another. The other options, such as A and D, are unrelated to the process of refraction and are not applicable in this context. Additionally, the statement "all colors" in option C is too general and does not accurately describe the specific phenomenon being referenced in the question.

8. What compensatory action is taken if a minus lens is moved further away from the eye?

- A. Defined as grams per cubic centimeter**
- B. Applied to the back of the lens with the ridged side out**
- C. Most children are born hyperopic**
- D. Increase the lens power or move the lens closer to the eye.**

When a minus lens is moved further away from the eye, the effective power of the lens decreases. This is because the distance from the lens to the eye alters how the light rays are refracted. To achieve the same visual correction, it is necessary to either increase the power of the lens or bring the lens closer to the eye to compensate for this change in position. Increasing the lens power allows the lens to maintain focus on the intended visual target, counteracting the loss of effective power caused by the increased distance from the eye. Therefore, moving the lens closer or increasing its power is essential to ensure the visual correction remains effective.

9. What does the term "base curve" refer to in lens design?

- A. The primary curvature of the lens that affects how it fits on the cornea**
- B. The color tint applied to the lens surface**
- C. The thickness of the lens edges**
- D. The distance between the lens and the eye**

The term "base curve" in lens design specifically refers to the primary curvature of the lens that influences how it conforms to the shape of the cornea. This curvature is crucial for achieving proper fit and alignment of the lens on the eye, which is essential for both comfort and optimal visual performance. A well-matched base curve helps in maintaining the lens's position on the eye, ensuring that it provides the correct optical correction and minimizes issues such as movement or discomfort. This concept is especially significant in fitting contact lenses, where the relationship between the lens surface and the cornea plays a vital role in the overall success of the lens wear. The other options do not pertain to the definition of base curve. The color tint applied to the lens surface addresses different aspects of lens design related to aesthetics and UV protection, while the thickness of the lens edges pertains to the optical properties and weight of the lens rather than its curvature. The distance between the lens and the eye is relevant to fit and could involve aspects like vertex distance, but it does not define the base curve itself.

10. What type of visual condition does the following prescription correct: +2.00 -1.50 x 180 OU?

- A. Simple myopic astigmatism**
- B. Compound myopic astigmatism**
- C. Simple hyperopic astigmatism**
- D. Compound hyperopic astigmatism**

The prescription +2.00 -1.50 x 180 OU indicates a specific combination of lens powers that corrects for both hyperopia (farsightedness) and astigmatism. The "+2.00" part indicates a spherical component that addresses hyperopia, while the "-1.50" with the axis specified as "180" indicates the presence of astigmatism along a specific meridian. In this case, the spherical component is positive, which signifies that the individual has a hyperopic condition. The negative cylindrical component means that there is astigmatism associated with this hyperopia, leading to a compound hyperopic astigmatism. This means the patient requires correction for both the spherical hyperopic component and the astigmatic component to achieve clear vision. While other options refer to various forms of myopic conditions or simple astigmatisms, they do not accurately reflect the hyperopic nature indicated by the presence of the positive spherical value in the prescription. Therefore, this choice correctly identifies the visual condition that the prescription is designed to correct.