

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

SAMPLE

- 1. Which term refers to the characteristic of a minus lens?**
 - A. Power times 0.5**
 - B. The limb in conjunction with the cornea and sclera**
 - C. Measures vertex distance**
 - D. Minifies**
- 2. What portion of light on the visible spectrum corresponds to the wavelengths 450 nm to 495 nm?**
 - A. Blue**
 - B. Red**
 - C. Green**
 - D. Violet**
- 3. What is the optical center of a lens?**
 - A. the speed of light in air divided by the speed of light in the material**
 - B. the single point on an optical lens through which light may pass without being deviated**
 - C. an eye which requires a different correction in different meridians can be corrected with these type of lenses**
 - D. the total power of the lens**
- 4. At birth, what is the refractive status of most children?**
 - 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. A minus lens moved further away from the eye has is compensated with**
- 5. What process involves the chemical tempering of a glass lens?**
 - A. UV-Curing**
 - B. Thermal Hardening**
 - C. Chemical Coating**
 - D. Ion Exchange**

- 6. 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**
- 7. What does the PD measurement in opticianry indicate?**
- A. Distance between lens centers**
 - B. Distance from lens to eye**
 - C. Distance between pupils**
 - D. Lens thickness**
- 8. Visual field tests aim to detect abnormalities related to:**
- A. Color perception**
 - B. Peripheral vision and blind spots**
 - C. Depth perception**
 - D. Central visual acuity**
- 9. What is the main benefit of using anti-reflective coating on lenses?**
- A. Improved aesthetic appearance**
 - B. Increased lens thickness**
 - C. Enhanced resistance to scratches**
 - D. Reduction of glare and reflections**
- 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. B
4. C
5. D
6. C
7. C
8. B
9. D
10. D

SAMPLE

Explanations

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1. Which term refers to the characteristic of a minus lens?

- A. Power times 0.5**
- B. The limb in conjunction with the cornea and sclera**
- C. Measures vertex distance**
- D. Minifies**

A minus lens is a type of lens used to correct nearsightedness or myopia. The term "minifies" specifically refers to the characteristic of a minus lens to reduce the size of the image being viewed. Option A, power times 0.5, is not a commonly used term to describe minus lenses. Option B, the limb in conjunction with the cornea and sclera, does not pertain to the characteristics of a minus lens and is a reference to ocular anatomy. Option C, measures vertex distance, is a term used to determine the proper placement of lenses in glasses, but does not describe the characteristics of a minus lens. Therefore, the most accurate and relevant term to describe the characteristic of a minus lens is "minifies."

2. What portion of light on the visible spectrum corresponds to the wavelengths 450 nm to 495 nm?

- A. Blue**
- B. Red**
- C. Green**
- D. Violet**

Light on the visible spectrum with wavelengths ranging from 450 nm to 495 nm corresponds to the color blue. Different colors in the visible spectrum are determined by the range of wavelengths they encompass. In this case, the range falls within the blue region, hence the correct answer is A. The other options (Red, Green, Violet) are not correct as they correspond to different ranges of wavelengths on the visible spectrum.

3. What is the optical center of a lens?

- A. the speed of light in air divided by the speed of light in the material**
- B. the single point on an optical lens through which light may pass without being deviated**
- C. an eye which requires a different correction in different meridians can be corrected with these type of lenses**
- D. the total power of the lens**

The optical center of a lens refers to a single point on the lens through which light can pass without being deviated. This is what allows light to be properly focused and creates clear images. Option A is incorrect because the ratio of the speed of light in air and in the material does not determine the optical center. Option C is incorrect because it describes a different type of lens used for correcting vision in individuals with different needs in different directions. Option D is incorrect because the total power of the lens does not determine the location of the optical center. Only option B correctly describes the concept of the optical center of a lens.

4. At birth, what is the refractive status of most children?

- 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. A minus lens moved further away from the eye has is compensated with**

At birth, most children are actually born hyperopic, which means they have difficulty focusing on near objects. This is because a baby's eyeball is shorter than that of an adult, causing light to focus behind the retina rather than directly on it. As the child grows and their eyeball lengthens, often reaching adult size by the time they are two or three years old, their refractive status tends to shift towards emmetropia (normal vision) or possibly myopia (nearsightedness) later in childhood. Hyperopia is the common refractive error at birth due to the characteristics of a baby's eye structure.

5. What process involves the chemical tempering of a glass lens?

- A. UV-Curing**
- B. Thermal Hardening**
- C. Chemical Coating**
- D. Ion Exchange**

The correct answer is Ion Exchange. This process involves immersing the glass lens in a bath of molten salt and then cooling it rapidly. The salt ions replace the smaller glass ions, creating a compressive layer on the surface of the lens which increases its strength and durability. Option A, UV-Curing, involves using ultraviolet light to harden a special resin coated on the glass lens. This process does not involve any chemicals. Option B, Thermal Hardening, is a similar process where the glass lens is heated and then rapidly cooled to create a hardened layer, but it does not involve any chemical tempering. Option C, Chemical Coating, also involves a chemical process but it is not the same as ion exchange. In this process, a thin layer of chemicals is applied to the glass lens to improve its optical properties or provide additional features such as anti-reflective or scratch-resistant coating. Overall, Ion Exchange is the correct answer for this question as it specifically refers to the process of chemically tempering glass lenses to increase their strength and durability.

6. 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.

7. What does the PD measurement in opticianry indicate?

- A. Distance between lens centers**
- B. Distance from lens to eye**
- C. Distance between pupils**
- D. Lens thickness**

The PD measurement, or pupillary distance, is crucial in opticianry as it indicates the distance between the centers of the pupils of the eyes. This measurement is essential for aligning optical lenses correctly with the user's eyes to ensure optimal visual performance and comfort. Accurate PD ensures that the optical center of each lens aligns with the center of the pupil, which is vital for reducing optical distortions and providing a wider field of clear vision. While other measurements in opticianry focus on different aspects, such as the distance between lens centers or the distance from lenses to the eyes, PD specifically pertains to the spatial relationship between the pupils. This alignment plays an integral role in creating personalized lenses that accommodate the individual's vision needs, especially in multifocal or progressive designs. Adjusting for PD can greatly enhance visual acuity and comfort for the wearer.

8. Visual field tests aim to detect abnormalities related to:

- A. Color perception**
- B. Peripheral vision and blind spots**
- C. Depth perception**
- D. Central visual acuity**

Visual field tests are used to assess the extent of your peripheral vision, as well as any blind spots or areas of reduced vision. This is important because peripheral vision and blind spots can be indicative of certain eye conditions or diseases, such as glaucoma. While color perception, depth perception, and central visual acuity are all important aspects of vision, they are not specifically measured by visual field tests. Therefore, options A, C, and D are incorrect and not relevant to visual field tests.

9. What is the main benefit of using anti-reflective coating on lenses?

- A. Improved aesthetic appearance**
- B. Increased lens thickness**
- C. Enhanced resistance to scratches**
- D. Reduction of glare and reflections**

The primary advantage of applying an anti-reflective coating to lenses is the reduction of glare and reflections. This coating allows more light to pass through the lens, enhancing visual clarity and comfort, particularly in challenging lighting conditions such as bright sunlight or when using screens. By minimizing reflections on the lens surface, anti-reflective coatings help to eliminate distractions for both the wearer and others, leading to a more pleasing aesthetic appearance. Moreover, by reducing glare, these coatings can significantly enhance the quality of vision, making them especially beneficial for activities like driving at night, working in front of digital screens, or any other situation where light can create visual disturbances. The other options, while they may offer some benefits, do not capture the fundamental purpose and effectiveness of anti-reflective coatings as thoroughly as the reduction of glare and reflections does.

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.