

NBEO Physiological Optics Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

Copyright © 2026 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.

SAMPLE

Table of Contents

Copyright 1

Table of Contents 2

Introduction 3

How to Use This Guide 4

Questions 5

Answers 8

Explanations 10

Next Steps 15

SAMPLE

Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 - 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

SAMPLE

- 1. During overminused refraction, which image is perceived as clearer?**
 - A. Red image**
 - B. Green image**
 - C. Both images equally clear**
 - D. Neither image is clearer**

- 2. Using Kestenbaum's rule, which ADD is recommended for a distance VA of 20/200 when the goal is 20/20?**
 - A. +5.00 Diopters**
 - B. +8.00 Diopters**
 - C. +10.00 Diopters**
 - D. +12.00 Diopters**

- 3. In the Reduced Eye model, what is the index of refraction inside the eye?**
 - A. 1.333**
 - B. 1.0**
 - C. 1.5**
 - D. 1.2**

- 4. What does the acronym ATR stand for in astigmatism terminology?**
 - A. Against The Rule**
 - B. Across The Rule**
 - C. Across The Radius**
 - D. Against The Radius**

- 5. Which statement best reflects the commonly used approach in bitoric GP fitting today?**
 - A. Saddle fit**
 - B. Low toric simulation**
 - C. High toric simulation**
 - D. Hybrid toric**

- 6. LARS axis adjustment is based on which clock hour?**
- A. 3 o'clock**
 - B. 6 o'clock**
 - C. 9 o'clock**
 - D. 12 o'clock**
- 7. Flattening the GP base curve by 0.3 mm requires adding approximately how much power?**
- A. +1.50 D**
 - B. -1.50 D**
 - C. +0.50 D**
 - D. -0.50 D**
- 8. Which term describes the prism effect that occurs in only one eye?**
- A. Total prismatic effect**
 - B. Vertical prismatic imbalance**
 - C. Binocular prism illusion**
 - D. Prismatic central shift**
- 9. Where is the MOST appropriate mirror location for a patient with a unilateral temporal VF defect?**
- A. Temporal portion of affected eye**
 - B. Nasal portion of affected eye**
 - C. Temporal portion of non-affected eye**
 - D. Nasal portion of non-affected eye**
- 10. What Snellen acuity is represented by 1 M at 1 meter?**
- A. 20/20**
 - B. 20/40**
 - C. 20/100**
 - D. 20/200**

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. During overminused refraction, which image is perceived as clearer?

- A. Red image**
- B. Green image**
- C. Both images equally clear**
- D. Neither image is clearer**

Chromatic aberration in the eye means different colors focus at slightly different depths: green light tends to focus closer to the retina, while red light focuses a bit behind it. When you overminuse, the overall optical power is more negative, pushing the image focus back toward the retina. Because green light's focal point is nearer the retina, this backward shift brings the green image into sharper focus more readily than the red image, whose focus lies behind the retina. So the green image appears clearer under overminused refraction.

2. Using Kestenbaum's rule, which ADD is recommended for a distance VA of 20/200 when the goal is 20/20?

- A. +5.00 Diopters**
- B. +8.00 Diopters**
- C. +10.00 Diopters**
- D. +12.00 Diopters**

Kestenbaum's rule gives a quick way to estimate the near add needed to bring a very reduced distance vision up to 20/20 by using the reciprocal of the near focus distance (in meters) you'd aim for. In practical terms, if the goal is to read at 20/20, the rule uses the distance at which that line would be seen with the added power and translates that distance into diopters. For a distance vision of 20/200, aiming to achieve 20/20 translates to focusing at about 0.1 meters (10 cm). The reciprocal of 0.1 m is 10, so the recommended near add is roughly +10 diopters. This large add corresponds to a near-working distance of around 10 cm, which is the strength needed to pull the image toward the retina and allow clear near reading to match 20/20 distance vision under this rule. In practice, this is a rule-of-thumb, and actual prescriptions may vary based on the patient's accommodation, ocular health, and intended tasks. But for this scenario, +10 diopters is the best estimate using Kestenbaum's approach.

3. In the Reduced Eye model, what is the index of refraction inside the eye?

A. 1.333

B. 1.0

C. 1.5

D. 1.2

In the Reduced Eye model, the interior of the eye is treated as a single medium with a refractive index that matches the ocular fluids, about 1.333. This value represents the combined refractive effects of the aqueous and vitreous humors, which are largely water-based with dissolved substances giving a slight elevation above 1.0. Using this internal index (roughly 1.333) allows the model to simplify the eye to one internal medium in contact with an external medium of air (index ~1.0), making it easier to calculate focal properties from a single refracting boundary. If you used a much different internal index, like 1.0 or 1.5, the predicted refractions would not align with how light actually bends at the eye's interfaces. The option around 1.2 is also not representative of the typical ocular fluids. Therefore, 1.333 best matches the internal ocular media.

4. What does the acronym ATR stand for in astigmatism terminology?

A. Against The Rule

B. Across The Rule

C. Across The Radius

D. Against The Radius

ATR stands for Against The Rule. In astigmatism, the cornea has two principal meridians with different curvatures, and the cylinder power is applied in the meridian perpendicular to its axis. When the steepest meridian is horizontal, this orientation is described as "Against The Rule" because it goes against the common pattern in younger eyes, where the vertical meridian tends to be steeper (with-the-rule). As people age, a shift toward horizontal steepness (ATR) is more common. The other phrases don't correctly describe this horizontal steepness orientation.

5. Which statement best reflects the commonly used approach in bitoric GP fitting today?

- A. Saddle fit
- B. Low toric simulation**
- C. High toric simulation
- D. Hybrid toric

Fitting bitoric gas-permeable lenses focuses on correcting astigmatism while keeping the lens stable, comfortable, and easy to fit. The approach commonly used today is low toric simulation on the posterior surface. Keeping the toricity modest allows the lens to align reliably with the eye's meridians without requiring large curvature differences that can lead to binding, rotation instability, or difficult tear dynamics. The tear layer and peripheral design still contribute to correcting residual astigmatism, so you get good vision with a fit that's easier to achieve and wear. In contrast, high toric simulation imposes bigger curvature differences, making the fit more sensitive to rotation and movement and increasing the risk of decentration or discomfort. Saddle-fit describes an older concept about how a lens interacts with a saddle-shaped surface and isn't the standard approach in current practice, while hybrid toric is a less universally adopted alternative.

6. LARS axis adjustment is based on which clock hour?

- A. 3 o'clock
- B. 6 o'clock**
- C. 9 o'clock
- D. 12 o'clock

The LARS axis adjustment uses a clock-hour reference tied to the direction of the shift you need to correct. LARS stands for Left, Above, Right, Below, and each direction maps to a clock-hour position on the eye. The "Below" direction corresponds to the 6 o'clock meridian, so the axis is set with reference to 6 o'clock. In other words, when applying LARS, the standard reference for the axis is the inferior (below) position, which is 6 o'clock. The other directions align with the other clock hours (left, above, right), but the axis adjustment in this method uses 6 o'clock as the key reference.

7. Flattening the GP base curve by 0.3 mm requires adding approximately how much power?

- A. +1.50 D**
- B. -1.50 D
- C. +0.50 D
- D. -0.50 D

Flattening the back surface of a gas-permeable lens changes how much focusing power the lens contributes. Making the base curve flatter increases its radius, which reduces the lens's converging effect. To maintain the same overall refractive correction, you compensate by adding power to the lens. The NBEO-style approximation is that a 0.3 mm flattening of the base curve requires about +1.50 diopters of added power. So the correct choice reflects this plus-power adjustment.

8. Which term describes the prism effect that occurs in only one eye?

- A. Total prismatic effect**
- B. Vertical prismatic imbalance**
- C. Binocular prism illusion**
- D. Prismatic central shift**

The main idea is that prism power applied to just one eye shifts that eye's image entirely while the other eye remains unshifted. When the full prism effect appears in a single eye, we call it the total prismatic effect. This distinguishes it from situations where prisms are present in both eyes or where the disparity is described as an imbalance between the eyes. Vertical prismatic imbalance refers to unequal vertical prism between the eyes, which creates vertical disparity but isn't about the effect being confined to one eye. The other options aren't standard terms for this unilateral phenomenon, since they don't specifically describe having the full prism effect in just one eye.

9. Where is the MOST appropriate mirror location for a patient with a unilateral temporal VF defect?

- A. Temporal portion of affected eye**
- B. Nasal portion of affected eye**
- C. Temporal portion of non-affected eye**
- D. Nasal portion of non-affected eye**

A unilateral temporal visual field defect maps to the nasal retina of that same eye. So when using a mirror to position stimuli or control where the patient looks during testing, placing the mirror on the nasal side of the affected eye channels the test stimuli to the nasal retina, which is the region responsible for the temporal field in that eye. This arrangement best reveals the defect because you're targeting the retina that actually corresponds to the impaired portion of the field. Placing the mirror elsewhere would either engage the intact retina/field or the other eye, making the temporal defect harder to detect.

10. What Snellen acuity is represented by 1 M at 1 meter?

- A. 20/20**
- B. 20/40**
- C. 20/100**
- D. 20/200**

Understanding Snellen acuity in terms of angular size helps here. A letter sized so that its overall height subtends five minutes of arc at the eye defines the standard acuity mark. A one-meter-tall letter viewed from one meter away creates that same five-arcminute visual angle as a standard 20/20 letter does when viewed from about 20 feet (roughly 6 meters). So reading a 1 M letter at 1 meter indicates normal visual acuity, equivalent to 20/20 (6/6). If the letters had to be read only from much closer or could be read only from farther away, that would correspond to worse acuity (larger denominators like 20/40, 20/100, 20/200).

Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

<https://nbeophysiooptics.examzify.com>

We wish you the very best on your exam journey. You've got this!

SAMPLE