Board Exam Desk

Optometry Reviewer

Optometry Licensure Examination | PRC | 120 original questions

2026 Edition | Updated November 2026

Original board-style practice questions with an answer key.

Practice questions

Ocular Anatomy and Physiology

1. A week after complicated cataract surgery, a patient has persistent diffuse corneal swelling. Damage to which corneal layer best explains the failure to keep the cornea dehydrated?

A. Endothelium
B. Epithelium
C. Bowman layer
D. Stroma

2. A patient with a trochlear nerve palsy after head trauma complains of vertical diplopia when reading. Which extraocular muscle is weak?

A. Inferior oblique
B. Superior oblique
C. Superior rectus
D. Lateral rectus

3. A patient's esotropia is large on right gaze and nearly absent on left gaze. Which cranial nerve is most likely affected?

A. Left abducens nerve
B. Right oculomotor nerve
C. Right abducens nerve
D. Right trochlear nerve

4. Which statement best describes the photoreceptor makeup of the foveola?

A. Mostly rods with scattered cones
B. Densely packed cones with no rods
C. Equal numbers of rods and cones
D. No photoreceptors at all

5. Aqueous humor is actively secreted mainly by which tissue?

A. Nonpigmented ciliary epithelium
B. Corneal endothelium
C. Trabecular meshwork cells
D. Iris pigment epithelium

6. In the conventional outflow pathway, aqueous leaving the trabecular meshwork drains next into which structure?

A. Suprachoroidal space
B. Schlemm canal
C. Posterior chamber
D. Vortex veins

7. Parasympathetic fibers that constrict the pupil synapse in which ganglion before reaching the iris sphincter?

A. Ciliary ganglion
B. Superior cervical ganglion
C. Pterygopalatine ganglion
D. Trigeminal ganglion

8. A patient with a lung apex tumor has a small pupil and 2 mm of ptosis on the same side. The ptosis results from paralysis of which muscle?

A. Superior tarsal (Muller) muscle
B. Levator palpebrae superioris
C. Orbicularis oculi
D. Frontalis

9. Sensory nerve fibers to the cornea come chiefly from which nerve?

A. Maxillary division of the trigeminal nerve
B. Ophthalmic division of the trigeminal nerve
C. Facial nerve
D. Oculomotor nerve

10. Where in the crystalline lens are the oldest lens fibers found?

A. In the central embryonic nucleus
B. In the outer cortex
C. At the lens equator
D. Just beneath the anterior capsule

11. A patient with evaporative dry eye has thick, cloudy secretions expressed from the lid margin. Which glands produce the deficient tear layer?

A. Main lacrimal gland
B. Meibomian glands
C. Conjunctival goblet cells
D. Accessory glands of Krause

12. In central retinal artery occlusion, the photoreceptors are initially spared because they are nourished mainly by which source?

A. Central retinal artery
B. Choriocapillaris
C. Long posterior ciliary veins
D. Anterior ciliary arteries

13. In the visual field of the right eye, the physiologic blind spot is located approximately where?

A. About 15 degrees nasal to fixation
B. About 15 degrees temporal to fixation
C. About 5 degrees above fixation
D. About 30 degrees temporal to fixation

14. A patient with a pituitary macroadenoma pressing on the optic chiasm from below would most likely show which field defect?

A. Left homonymous hemianopia
B. Binasal hemianopia
C. Central scotoma in one eye
D. Bitemporal hemianopia

15. A lesion of the right optic tract produces which visual field defect?

A. Right homonymous hemianopia
B. Bitemporal hemianopia
C. Left homonymous hemianopia
D. Right eye total blindness

16. A lesion confined to the right temporal lobe damages Meyer loop. Which field defect is expected?

A. Left inferior homonymous quadrantanopia
B. Right superior homonymous quadrantanopia
C. Bitemporal superior quadrantanopia
D. Left superior homonymous quadrantanopia

17. During the swinging flashlight test, both pupils dilate whenever the light is moved from the left eye to the right eye. Where is the lesion?

A. Left optic nerve
B. Right optic nerve
C. Right oculomotor nerve
D. Left iris sphincter

18. Which protein forms the main structural framework of the vitreous gel?

A. Type II collagen
B. Type I collagen
C. Elastin
D. Type IV collagen

19. Besides the optic nerve, which structure passes through the optic canal?

A. Superior ophthalmic vein
B. Ophthalmic artery
C. Abducens nerve
D. Nasociliary nerve

20. When an eye shifts focus from a distant to a near target, which change occurs?

A. Ciliary muscle relaxes, zonules tighten and the lens flattens
B. Ciliary muscle contracts, zonules slacken and the lens thickens
C. Ciliary muscle contracts, zonules tighten and the lens flattens
D. Iris dilator contracts and the lens moves backward

Geometric and Ophthalmic Optics

21. An object is placed 25 cm in front of a +6.00 D thin lens. Where is the image formed?

A. 25 cm behind the lens
B. 50 cm in front of the lens
C. 50 cm behind the lens
D. 10 cm behind the lens

22. A diverging thin lens has a secondary focal length of -40 cm. What is its dioptric power?

A. -0.40 D
B. -4.00 D
C. -2.50 D
D. -25.00 D

23. Light in air strikes a glass surface (n = 1.50) at 30 degrees from the normal. What is the angle of refraction?

A. About 20.0 degrees
B. About 45.0 degrees
C. About 15.0 degrees
D. About 19.5 degrees

24. What is the critical angle for light passing from glass of index 1.60 into air?

A. About 41.8 degrees
B. About 38.7 degrees
C. About 32.0 degrees
D. About 51.3 degrees

25. The optical center of a +4.00 D spectacle lens sits 5 mm below the patient's pupil. What prism does the patient look through?

A. 2.00 prism diopters base up
B. 0.80 prism diopters base down
C. 2.00 prism diopters base down
D. 20.00 prism diopters base up

26. Transpose the prescription +2.00 -1.50 x 090 into plus-cylinder form.

A. +3.50 +1.50 x 180
B. +0.50 +1.50 x 180
C. +0.50 +1.50 x 090
D. -2.00 +1.50 x 180

27. A patient wears -8.00 D spectacles at a vertex distance of 12 mm. What contact lens power is needed, rounded to the nearest 0.25 D?

A. -8.75 D
B. -7.25 D
C. -8.00 D
D. -7.75 D

28. An aphakic patient wears +10.00 D spectacles at 13 mm. What contact lens power is required, rounded to the nearest 0.25 D?

A. +8.75 D
B. +10.00 D
C. +11.50 D
D. +13.00 D

29. A convex spherical surface with radius +10 cm separates air from glass of index 1.50. What is its refracting power?

A. +15.00 D
B. +10.00 D
C. +5.00 D
D. +2.50 D

30. A thin meniscus lens of index 1.523 has a front radius of +10 cm and a back radius of +20 cm. What is its approximate power in air?

A. +7.85 D
B. -2.62 D
C. +5.00 D
D. +2.62 D

31. Using the conventional reference distance of 25 cm, what is the magnification of a +20.00 D hand magnifier?

A. 4x
B. 20x
C. 2.5x
D. 5x

32. An object stands 60 cm in front of a concave mirror with a radius of curvature of 40 cm. Where is the image?

A. 20 cm in front of the mirror, real and inverted
B. 60 cm behind the mirror, virtual and upright
C. 120 cm in front of the mirror, real and inverted
D. 30 cm in front of the mirror, real and inverted

33. A prism displaces the image of a target 3 cm when the target is 50 cm away. What is the prism power?

A. 6 prism diopters
B. 3 prism diopters
C. 1.5 prism diopters
D. 15 prism diopters

34. A right lens must provide 3 prism diopters base up and 4 prism diopters base in. What single obliquely placed prism gives the same effect?

A. 7 prism diopters
B. 1 prism diopter
C. 12 prism diopters
D. 5 prism diopters

35. What is the power of the lens plano -2.00 x 180 along the 30 degree meridian?

A. -1.00 D
B. -1.50 D
C. -0.50 D
D. -2.00 D

36. Which bifocal segment design produces essentially no image jump at the segment line?

A. Round 22 mm segment
B. Flat-top 28 segment
C. Executive segment
D. Round 40 mm segment

37. A round 24 mm bifocal segment has a +2.50 add. How much image jump is produced at the segment top?

A. 6.00 prism diopters base down
B. 1.20 prism diopters base up
C. 3.00 prism diopters base up
D. 3.00 prism diopters base down

38. Which lens material shows the greatest transverse chromatic aberration for a given power and decentration?

A. CR-39 plastic
B. Crown glass
C. Trivex
D. Polycarbonate

39. Approximately what percentage of light is reflected at each uncoated surface of a lens with index 1.70 at normal incidence?

A. About 4.0 percent
B. About 1.7 percent
C. About 6.7 percent
D. About 10.5 percent

40. Two thin +5.00 D lenses are separated by 10 cm in air. What is the equivalent power of the system?

A. +10.00 D
B. +2.50 D
C. +7.50 D
D. +12.50 D

Physiologic Optics and Binocular Vision

41. Where is the far point of an uncorrected eye with -4.00 D of myopia?

A. 4 m in front of the eye
B. 25 cm in front of the eye
C. 25 cm behind the eye
D. 40 cm in front of the eye

42. An uncorrected +3.00 D hyperope has 8.00 D of accommodation. Where is the near point?

A. 12.5 cm in front of the eye
B. 33 cm in front of the eye
C. 20 cm in front of the eye
D. 9 cm in front of the eye

43. Using Hofstetter's formula, what is the minimum expected amplitude of accommodation for a 40-year-old?

A. 7.00 D
B. 3.00 D
C. 10.00 D
D. 5.00 D

44. A presbyope has 2.00 D of measured amplitude and reads at 40 cm. Keeping half the amplitude in reserve, what add is needed?

A. +0.50 D
B. +2.50 D
C. +1.00 D
D. +1.50 D

45. A -6.00 D myope switches from spectacles to contact lenses. How does the accommodative demand for reading change?

A. It increases
B. It decreases
C. It stays exactly the same
D. It drops to zero

46. A patient has a 60 mm PD, 2 prism diopters exophoria at distance and 8 prism diopters exophoria at 40 cm. What is the calculated AC/A ratio?

A. 6.0 prism diopters per diopter
B. 8.4 prism diopters per diopter
C. 3.6 prism diopters per diopter
D. 2.4 prism diopters per diopter

47. At 40 cm a patient shows 4 prism diopters exophoria; through -1.00 D lenses the same target shows 1 prism diopter esophoria. What is the gradient AC/A ratio?

A. 5 prism diopters per diopter
B. 3 prism diopters per diopter
C. 1 prism diopter per diopter
D. 4 prism diopters per diopter

48. A student reports eye strain when reading. Testing shows orthophoria at distance, 12 prism diopters exophoria at near, a receded near point of convergence and low base-out vergence. What is the most likely diagnosis?

A. Convergence insufficiency
B. Divergence excess
C. Convergence excess
D. Basic esophoria

49. A patient has 9 prism diopters exophoria at near with a base-out blur point of 12. According to Sheard's criterion, how much prism is needed?

A. 4 prism diopters base in
B. 3 prism diopters base out
C. 2 prism diopters base in
D. No prism is needed

50. A small target lies slightly in front of the horopter but within Panum's fusional area. How is it perceived?

A. Double, with crossed images
B. Single, with a sense of relative depth
C. Single, but flat with no depth
D. Suppressed in the nondominant eye

51. In a patient with strabismus, the angle of anomaly equals the objective angle of deviation. What type of retinal correspondence is present?

A. Unharmonious anomalous correspondence
B. Normal retinal correspondence
C. Harmonious anomalous correspondence
D. Paradoxical anomalous correspondence

52. Which young child's refraction carries the highest risk of anisometropic amblyopia?

A. OD -0.50 DS, OS -2.00 DS
B. OD +1.00 DS, OS +1.50 DS
C. OD -1.00 DS, OS -1.50 DS
D. OD +0.50 DS, OS +3.50 DS

53. On a Snellen chart used at 6 m, what overall visual angle does a 6/12 letter subtend?

A. 5 minutes of arc
B. 10 minutes of arc
C. 2 minutes of arc
D. 12 minutes of arc

54. What is the approximate height of a 6/6 Snellen letter designed for a 6 m test distance?

A. 5.0 mm
B. 8.7 mm
C. 17.5 mm
D. 1.7 mm

55. A visual acuity of 6/24 corresponds to which logMAR value?

A. 0.60
B. 0.24
C. 0.40
D. 1.00

56. Which Purkinje-Sanson image is real and inverted?

A. The image from the anterior corneal surface
B. The image from the posterior corneal surface
C. The image from the posterior lens surface
D. The image from the anterior lens surface

57. At dusk, red flowers look darker relative to green leaves than they do at noon. What explains this?

A. Peak sensitivity shifts toward about 600 nm as cones take over
B. The pupil constricts and blocks long wavelengths
C. Peak sensitivity shifts toward about 507 nm as rods take over
D. The lens absorbs more red light in dim light

58. A man with protanopia has children with a woman who carries no color vision gene defect. What is expected for their children?

A. All sons affected; daughters unaffected
B. Half of sons affected; half of daughters carriers
C. All children affected
D. Sons unaffected; all daughters carriers

59. Using a reduced eye of +60.00 D, what is the approximate retinal image size of a distant object subtending 1 degree?

A. 0.60 mm
B. 0.29 mm
C. 1.00 mm
D. 0.017 mm

60. With a red filter over the right eye and a green filter over the left, a patient viewing the Worth four-dot test sees only two red dots. What does this indicate?

A. Suppression of the right eye
B. Normal fusion
C. Crossed diplopia
D. Suppression of the left eye

Ocular Pathology and Pharmacology

61. A 62-year-old hyperopic woman has sudden severe eye pain, halos, nausea, a fixed mid-dilated pupil and a stony-hard eye. What is the most likely diagnosis?

A. Acute angle-closure glaucoma
B. Acute anterior uveitis
C. Bacterial keratitis
D. Central retinal vein occlusion

62. Before instilling tropicamide for a dilated fundus exam, which finding most calls for caution?

A. Intraocular pressure of 15 mmHg
B. Van Herick grade 1 anterior chamber angle
C. History of myopia of -3.00 D
D. Mild blepharitis

63. Topical timolol for glaucoma should be avoided in a patient with which condition?

A. Hypothyroidism
B. Mild hypertension
C. Bronchial asthma
D. Allergic rhinitis

64. A patient using latanoprost in one eye notices the iris of that eye becoming browner and its lashes growing longer. What drug class causes this?

A. Prostaglandin analogue
B. Alpha-2 agonist
C. Carbonic anhydrase inhibitor
D. Beta blocker

65. How does pilocarpine lower intraocular pressure?

A. It contracts the ciliary muscle and opens the trabecular meshwork
B. It reduces aqueous production by the ciliary body
C. It relaxes the iris sphincter and widens the angle
D. It increases uveoscleral outflow by relaxing the ciliary muscle

66. Oral acetazolamide lowers IOP by which mechanism, and which allergy history calls for caution?

A. Blocks beta receptors; penicillin allergy
B. Inhibits carbonic anhydrase; sulfonamide allergy
C. Stimulates alpha-2 receptors; latex allergy
D. Inhibits cholinesterase; iodine allergy

67. Which cycloplegic agent has the strongest and longest-lasting effect?

A. Tropicamide
B. Atropine
C. Cyclopentolate
D. Homatropine

68. Phenylephrine dilates the pupil without affecting accommodation. What is its mechanism?

A. Blocks muscarinic receptors of the iris sphincter
B. Blocks alpha-1 receptors of the iris dilator
C. Stimulates alpha-1 receptors of the iris dilator
D. Stimulates muscarinic receptors of the ciliary muscle

69. Why should topical anesthetics such as proparacaine never be dispensed to patients for home use?

A. They permanently dilate the pupil
B. They raise intraocular pressure
C. Repeated use delays healing and can cause corneal ulceration
D. They cause irreversible cataract within days

70. Which fundus finding marks the change from nonproliferative to proliferative diabetic retinopathy?

A. Dot and blot hemorrhages
B. Hard exudates near the macula
C. Microaneurysms in all quadrants
D. Neovascularization of the disc or elsewhere

71. An elderly patient has sudden painless loss of vision in one eye; the fundus shows a pale retina with a cherry-red spot at the fovea. What is the likely diagnosis?

A. Central retinal artery occlusion
B. Central retinal vein occlusion
C. Rhegmatogenous retinal detachment
D. Vitreous hemorrhage

72. A myopic patient reports new flashes of light, a shower of floaters and a shadow spreading from the side of the vision. What is the priority concern?

A. Migraine aura
B. Posterior subcapsular cataract
C. Dry eye
D. Retinal detachment

73. A patient has a red, watery eye with lower tarsal follicles and a tender preauricular lymph node after a recent cold. What is the most likely cause?

A. Adenoviral conjunctivitis
B. Bacterial conjunctivitis
C. Allergic conjunctivitis
D. Acute angle closure

74. Fluorescein staining shows a branching epithelial ulcer with terminal bulbs. Which treatment step is inappropriate?

A. Starting a topical corticosteroid alone
B. Starting a topical antiviral
C. Checking corneal sensation
D. Asking about previous episodes

75. A contact lens wearer who rinses lenses in tap water has severe pain out of proportion to findings and a ring-shaped stromal infiltrate. Which organism is most likely?

A. Staphylococcus epidermidis
B. Adenovirus
C. Acanthamoeba
D. Candida albicans

76. A young adult has progressive irregular astigmatism, an iron line around the cone base and fine vertical stromal lines. What is the diagnosis?

A. Fuchs endothelial dystrophy
B. Keratoconus
C. Pterygium
D. Band keratopathy

77. A patient on long-term oral corticosteroids for asthma complains of glare and reduced reading vision. Which cataract type is most likely?

A. Nuclear sclerotic cataract
B. Anterior polar cataract
C. Posterior subcapsular cataract
D. Cortical spoke cataract

78. An older adult with macular drusen develops sudden distortion, with subretinal fluid and hemorrhage at the macula. Which treatment is commonly used?

A. Intravitreal anti-VEGF injections
B. Topical prostaglandin drops
C. Oral antibiotics
D. Plus lens magnifiers alone

79. A patient with severe morning headaches has bilateral swollen optic discs with obscured margins but near-normal visual acuity. What is the most likely cause?

A. Bilateral optic neuritis
B. Primary open-angle glaucoma
C. Anterior uveitis
D. Raised intracranial pressure

80. A patient has a painless, firm, slowly enlarging lump in the upper eyelid away from the lid margin. What is the most likely diagnosis?

A. Hordeolum externum
B. Preseptal cellulitis
C. Dacryocystitis
D. Chalazion

Clinical Optometry and Contact Lenses

81. Retinoscopy at a 50 cm working distance is neutralized with a +3.00 D lens. What is the patient's refractive error?

A. +3.00 D
B. +5.00 D
C. +1.00 D
D. +2.00 D

82. During retinoscopy, the reflex moves in the same direction as the streak with the working lens in place. What should be done?

A. Add minus power
B. Add plus power
C. Rotate the streak 90 degrees
D. Increase the working distance

83. While refining the axis of a minus cylinder with a Jackson cross cylinder, the patient prefers one position. Which way should the cylinder axis be turned?

A. Toward the plus (white dot) axis of the cross cylinder
B. Exactly 90 degrees away from the preferred position
C. Not at all; only the power is changed
D. Toward the minus (red dot) axis of the cross cylinder

84. On the duochrome test, the patient reports that letters on the red side are clearer. What adjustment is indicated?

A. Add plus power
B. Add minus power
C. Increase cylinder power
D. Change the cylinder axis

85. What is the spherical equivalent of -3.00 -1.50 x 180?

A. -4.50 D
B. -2.25 D
C. -3.00 D
D. -3.75 D

86. A patient reads 6/30 unaided, and visual acuity does not improve at all with a pinhole. What does this most suggest?

A. A non-refractive cause of reduced vision
B. Uncorrected high myopia
C. Uncorrected regular astigmatism
D. Uncorrected hyperopia

87. Keratometry reads 43.00 D at 180 and 44.50 D at 090. What is the corneal astigmatism?

A. 1.50 D with-the-rule
B. 1.50 D against-the-rule
C. 0.75 D with-the-rule
D. 1.50 D oblique

88. Refraction is -2.00 -0.75 x 180 and keratometry is 42.00 D at 180 / 43.75 D at 090. What residual astigmatism is expected with a spherical rigid lens?

A. -0.75 x 180
B. -1.75 x 180
C. No residual astigmatism
D. -1.00 x 090

89. A rigid lens with a 44.00 D base curve is fitted on a cornea with a flat K of 43.00 D. The spectacle Rx is -3.00 DS with negligible vertex effect. What lens power is needed?

A. -2.00 D
B. -3.00 D
C. -5.00 D
D. -4.00 D

90. Using the keratometric index of 1.3375, what is the corneal power for a radius of 7.50 mm?

A. 44.00 D
B. 43.50 D
C. 45.00 D
D. 46.50 D

91. Which finding suggests that a soft contact lens is fitted too tightly?

A. Almost no movement on blinking with conjunctival indentation
B. Lens drops and decenters after each blink
C. Edge lifting visible at the lens margin
D. Excessive movement of more than 2 mm

92. A trial toric soft lens for -2.00 -1.25 x 180 settles with its marking rotated 10 degrees to the examiner's left. What axis should be ordered?

A. 010
B. 170
C. 180
D. 100

93. A soft lens wearer has itching, mucus and large papillae on the upper tarsal conjunctiva, with heavily coated lenses. What is the likely diagnosis?

A. Superior limbic keratoconjunctivitis
B. Adenoviral conjunctivitis
C. Giant papillary conjunctivitis
D. Episcleritis

94. A long-time wearer of low-oxygen hydrogel lenses shows vessels growing into the peripheral cornea. Which change best addresses the cause?

A. Refit with high-Dk silicone hydrogel lenses
B. Switch to thicker hydrogel lenses
C. Extend wearing time overnight
D. Use a steeper base curve

95. What does the Dk/t value of a contact lens describe?

A. Oxygen transmissibility of the lens at its thickness
B. Oxygen permeability of the material regardless of thickness
C. Water content of the lens material
D. Diameter divided by base curve

96. On unilateral cover testing at distance, covering the left eye makes the right eye move outward to take up fixation. What is present?

A. Right exotropia
B. Left esotropia
C. Right esotropia
D. Esophoria only

97. A low vision patient has 6/60 distance acuity and wants to reach 6/12. What magnification is required?

A. 10x
B. 5x
C. 2x
D. 6x

98. Using Kestenbaum's rule, what reading add is predicted for a patient with 20/200 distance acuity?

A. +10.00 D
B. +2.00 D
C. +5.00 D
D. +20.00 D

99. A patient sees wavy, bent lines in the center of an Amsler grid with one eye. Which structure is most likely affected?

A. The optic chiasm
B. The macula
C. The peripheral retina
D. The crystalline lens

100. Goldmann applanation reads 17 mmHg on a patient with a thin central cornea. How should this reading be interpreted?

A. True IOP is probably lower than 17 mmHg
B. Corneal thickness does not affect the reading
C. The reading is invalid and cannot be used
D. True IOP is probably higher than 17 mmHg

Optometric Jurisprudence and Ethics

101. Which law is known as the Revised Optometry Law of 1995 governing optometric practice in the Philippines?

A. Republic Act No. 8050
B. Republic Act No. 9173
C. Republic Act No. 5527
D. Republic Act No. 2382

102. The Professional Board of Optometry operates under the supervision of which government agency?

A. Professional Regulation Commission
B. Department of Health
C. Commission on Higher Education
D. Civil Service Commission

103. A patient's employer calls the clinic asking for the patient's eye examination findings. What should the optometrist do?

A. Release them only with the patient's written consent
B. Release them since the employer pays salaries
C. Release only the visual acuity results
D. Refuse and destroy the record

104. Under RA 8050, what kind of pharmaceutical agents may a licensed optometrist use in examining the eye?

A. Topical diagnostic pharmaceutical agents
B. Oral antibiotics for systemic infection
C. Injectable anesthetics for surgery
D. Intravitreal anti-VEGF agents

105. After a complete exam, a patient asks for a copy of her spectacle prescription to buy glasses elsewhere. What is the proper response?

A. Refuse unless she buys from the clinic
B. Charge a penalty for buying elsewhere
C. Provide the prescription to the patient
D. Give only the sphere powers

106. An optometrist finds IOP of 30 mmHg and an enlarged, asymmetric cup-to-disc ratio. What is the most appropriate action?

A. Prescribe new glasses and recheck in two years
B. Reassure the patient since vision is 6/6
C. Start oral acetazolamide at the clinic
D. Refer the patient to an ophthalmologist for evaluation

107. Before instilling dilating drops, what should the optometrist tell the patient as part of informed consent?

A. Dilation permanently improves near vision
B. Expect blur and light sensitivity for some hours, so avoid driving
C. No side effects are possible
D. The drops will correct the refractive error

108. A 12-year-old arrives alone requesting an eye examination with dilation. Whose consent should be obtained?

A. The child alone
B. The parent or legal guardian
C. The school teacher
D. The clinic receptionist

109. A sales clerk without a license regularly performs refractions and issues prescriptions in an optical shop. This act constitutes what?

A. Acceptable optical dispensing
B. Permitted practice under supervision of a cashier
C. A minor administrative lapse only
D. Illegal practice of optometry

110. Which advertisement by an optometry clinic would be considered unethical?

A. Clinic hours and location
B. Guaranteed permanent cure of myopia in one week
C. Accepted payment methods
D. Availability of contact lens fitting

111. Which law requires registered professionals in the Philippines to complete continuing professional development?

A. Republic Act No. 10173
B. Republic Act No. 8981
C. Republic Act No. 7160
D. Republic Act No. 10912

112. Which law is known as the PRC Modernization Act of 2000?

A. Republic Act No. 10912
B. Republic Act No. 8050
C. Republic Act No. 8981
D. Republic Act No. 9165

113. Under the Data Privacy Act (RA 10173), how is a patient's eye health record classified?

A. Public information
B. Privileged business data
C. Non-personal statistical data
D. Sensitive personal information

114. To win a negligence claim against an optometrist, which element must the patient prove besides duty and breach?

A. The optometrist's income level
B. Number of years in practice
C. That the clinic advertised
D. Injury caused by the breach

115. An optometrist whose certificate of registration was revoked continues seeing patients. What is the legal status of this practice?

A. Legal if patients consent
B. Legal until the PRC ID expires
C. Legal in a rural area
D. Unlawful practice without a valid registration

116. A lens laboratory offers an optometrist a secret cash rebate for every patient steered to it. What ethical issue does accepting this raise?

A. Conflict of interest that undermines patient trust
B. Proper business networking
C. Ordinary volume discount for the patient
D. Required professional courtesy

117. A fully informed patient declines a recommended retinal referral. Which ethical principle requires respecting this choice while documenting it?

A. Justice
B. Non-maleficence
C. Fidelity to the employer
D. Autonomy

118. An optometrist gives the same thoroughness of care to every patient regardless of social status or ability to pay. Which ethical principle is demonstrated?

A. Autonomy
B. Veracity
C. Justice
D. Paternalism

119. An optometrist notices an incorrect entry in a patient's written record. What is the proper way to correct it?

A. Erase it completely and rewrite
B. Draw a single line through it, write the correction, then initial and date
C. Cover it with correction fluid
D. Tear out the page and redo the record

120. What is the main purpose of a school vision screening program?

A. To diagnose specific eye diseases
B. To dispense spectacles at the school
C. To identify children who need a full eye examination
D. To replace comprehensive eye exams

Answer key

Optometry

1. A. Endothelium

The endothelium pumps fluid out of the stroma to maintain deturgescence and has very limited capacity to regenerate, so its damage causes lasting edema.

2. B. Superior oblique

The trochlear nerve supplies only the superior oblique, which depresses the eye mainly in adduction, so reading (down and in) is most affected.

3. C. Right abducens nerve

The deviation increases in the field of action of the paretic muscle; right gaze uses the right lateral rectus, supplied by the right abducens nerve.

4. B. Densely packed cones with no rods

The foveola is a rod-free zone with the highest cone density, which supports the sharpest photopic acuity.

5. A. Nonpigmented ciliary epithelium

The nonpigmented epithelium of the ciliary processes secretes aqueous through active transport and ultrafiltration.

6. B. Schlemm canal

Conventional outflow runs from the trabecular meshwork into Schlemm canal, then collector channels and aqueous veins.

7. A. Ciliary ganglion

Preganglionic oculomotor fibers synapse in the ciliary ganglion, and postganglionic fibers travel in the short ciliary nerves to the sphincter pupillae.

8. A. Superior tarsal (Muller) muscle

Horner syndrome interrupts sympathetic supply to the smooth Muller muscle, producing mild ptosis, unlike the marked ptosis of an oculomotor palsy.

9. B. Ophthalmic division of the trigeminal nerve

Corneal sensation travels through the long ciliary nerves, branches of the nasociliary nerve of the ophthalmic division (V1).

10. A. In the central embryonic nucleus

Lens fibers are added at the periphery throughout life, so the earliest-formed fibers remain compacted at the center.

11. B. Meibomian glands

The meibomian glands secrete the outer lipid layer that slows tear evaporation; their dysfunction is the main cause of evaporative dry eye.

12. B. Choriocapillaris

The outer retina, including photoreceptors, is supplied by the choriocapillaris, while the central retinal artery feeds the inner retina.

13. B. About 15 degrees temporal to fixation

The optic disc lies nasal to the fovea, so its projection, the blind spot, falls about 15 degrees temporal to fixation in the field.

14. D. Bitemporal hemianopia

Compression at the chiasm damages crossing nasal retinal fibers from both eyes, which serve the temporal fields.

15. C. Left homonymous hemianopia

The right optic tract carries fibers from the right half of each retina, which see the left visual field.

16. D. Left superior homonymous quadrantanopia

Meyer loop carries inferior retinal fibers that see the superior field; a right-sided lesion affects the left superior quadrant of both eyes.

17. B. Right optic nerve

Dilation when the right eye is lit indicates a weaker afferent signal from that eye, a right relative afferent pupillary defect.

18. A. Type II collagen

The vitreous is a hydrated network of thin type II collagen fibrils with interspersed hyaluronic acid.

19. B. Ophthalmic artery

The optic canal transmits the optic nerve and ophthalmic artery; the vein and the other nerves pass through the superior orbital fissure.

20. B. Ciliary muscle contracts, zonules slacken and the lens thickens

Contraction of the ciliary muscle reduces zonular tension so the elastic lens becomes more convex, increasing its power.

21. C. 50 cm behind the lens

U = 1/-0.25 = -4.00 D; V = U + F = -4.00 + 6.00 = +2.00 D, so the image is 1/2 = 0.50 m behind the lens.

22. C. -2.50 D

F = 1/f in meters = 1/-0.40 = -2.50 D.

23. D. About 19.5 degrees

sin r = sin 30 / 1.50 = 0.333, so r = 19.47 degrees.

24. B. About 38.7 degrees

sin c = 1/1.60 = 0.625, so c = 38.68 degrees.

25. C. 2.00 prism diopters base down

Prentice: P = cF = 0.5 cm x 4.00 = 2.00; a plus lens acts base toward its optical center, which is below, so base down.

26. B. +0.50 +1.50 x 180

New sphere = 2.00 + (-1.50) = +0.50, cylinder sign reverses to +1.50, axis changes by 90 to 180.

27. B. -7.25 D

Fc = F/(1 - dF) = -8.00/(1 + 0.012 x 8) = -7.30 D, rounded to -7.25 D.

28. C. +11.50 D

Fc = 10.00/(1 - 0.013 x 10.00) = 10.00/0.87 = +11.49 D, about +11.50 D.

29. C. +5.00 D

F = (n' - n)/r = (1.50 - 1.00)/0.10 m = +5.00 D.

30. D. +2.62 D

F = (n - 1)(1/r1 - 1/r2) = 0.523 x (10 - 5) = +2.615 D.

31. D. 5x

Conventional magnification M = F/4 = 20/4 = 5x.

32. D. 30 cm in front of the mirror, real and inverted

f = r/2 = 20 cm; 1/v = 1/20 - 1/60 = 1/30, so v = 30 cm on the object side, a real inverted image.

33. A. 6 prism diopters

Prism diopters = displacement in cm per meter of distance = 3 cm / 0.5 m = 6.

34. D. 5 prism diopters

Resultant = square root of (3 squared + 4 squared) = square root of 25 = 5 prism diopters, oriented up and in.

35. C. -0.50 D

Power at an oblique meridian = F sin squared of the angle from the axis = -2.00 x sin squared 30 = -2.00 x 0.25 = -0.50 D.

36. C. Executive segment

Image jump depends on the distance from the segment top to the segment optical center; the executive segment has its optical center at the dividing line.

37. D. 3.00 prism diopters base down

The segment optical center is 1.2 cm below its top; P = 1.2 x 2.50 = 3.00, and a plus segment gives base-down effect at its top.

38. D. Polycarbonate

Polycarbonate has the lowest Abbe value of the four (about 30), so it disperses colors most.

39. C. About 6.7 percent

R = ((n - 1)/(n + 1)) squared = (0.70/2.70) squared = 0.0672, or about 6.7 percent.

40. C. +7.50 D

Fe = F1 + F2 - dF1F2 = 5 + 5 - 0.10 x 25 = +7.50 D.

41. B. 25 cm in front of the eye

The far point lies at 1/4.00 = 0.25 m in front of the eye for a myope.

42. C. 20 cm in front of the eye

3.00 D is used to clear distance, leaving 5.00 D for near; 1/5.00 = 0.20 m.

43. D. 5.00 D

Minimum amplitude = 15 - 0.25 x age = 15 - 10 = 5.00 D.

44. D. +1.50 D

Demand is 1/0.40 = 2.50 D; half of 2.00 D (1.00 D) is used, so add = 2.50 - 1.00 = +1.50 D.

45. A. It increases

Minus spectacles reduce the accommodation needed at near; moving the correction to the cornea removes this effect, so near demand rises.

46. C. 3.6 prism diopters per diopter

AC/A = PD(cm) + (Hn - Hd)/D = 6.0 + (-8 - (-2))/2.5 = 6.0 - 2.4 = 3.6.

47. A. 5 prism diopters per diopter

The phoria shifted 5 prism diopters (4 exo to 1 eso) for 1.00 D of lens change, giving 5:1.

48. A. Convergence insufficiency

Exophoria much greater at near with a remote NPC and reduced positive fusional vergence is the classic convergence insufficiency pattern.

49. C. 2 prism diopters base in

Prism = 2/3 phoria - 1/3 compensating vergence = 6 - 4 = 2 prism diopters, base in for exophoria.

50. B. Single, with a sense of relative depth

Points within Panum's area are fused despite small disparity, and that disparity is the basis of stereopsis.

51. C. Harmonious anomalous correspondence

When the angle of anomaly equals the objective angle, the subjective angle is zero, which defines harmonious ARC.

52. D. OD +0.50 DS, OS +3.50 DS

A 3.00 D hyperopic difference leaves the more hyperopic eye chronically blurred at all distances, a strong amblyopia risk.

53. B. 10 minutes of arc

A 6/6 letter subtends 5 minutes at 6 m; a 6/12 letter is twice as large, so 10 minutes.

54. B. 8.7 mm

Height = 6000 mm x tan(5 minutes of arc) = 6000 x 0.001454 = 8.73 mm.

55. A. 0.60

MAR = 24/6 = 4 minutes; log10 of 4 = 0.60.

56. C. The image from the posterior lens surface

The posterior lens surface acts as a concave mirror, forming the fourth image, which is real and inverted.

57. C. Peak sensitivity shifts toward about 507 nm as rods take over

This Purkinje shift occurs because scotopic sensitivity peaks near 507 nm, compared with about 555 nm for photopic vision.

58. D. Sons unaffected; all daughters carriers

Red-green defects are X-linked recessive; the father passes his X only to daughters (carriers) and his Y to sons.

59. B. 0.29 mm

The nodal point is 1/60 m = 16.67 mm from the retina; image size = 16.67 x tan 1 degree = 0.29 mm.

60. D. Suppression of the left eye

Seeing only the red dots means only the right eye (red filter) is contributing, so the left eye is suppressed.

61. A. Acute angle-closure glaucoma

Sudden pain, halos, a mid-dilated nonreactive pupil and very high IOP in a short hyperopic eye are typical of acute angle closure.

62. B. Van Herick grade 1 anterior chamber angle

A very narrow peripheral chamber depth suggests an occludable angle that could close when the pupil dilates.

63. C. Bronchial asthma

Timolol is a nonselective beta blocker; systemic absorption can block beta-2 receptors and trigger bronchospasm.

64. A. Prostaglandin analogue

Prostaglandin F2-alpha analogues such as latanoprost can increase iris melanin and stimulate eyelash growth.

65. A. It contracts the ciliary muscle and opens the trabecular meshwork

Pilocarpine is a muscarinic agonist; ciliary muscle contraction pulls on the scleral spur and improves conventional outflow.

66. B. Inhibits carbonic anhydrase; sulfonamide allergy

Acetazolamide reduces aqueous secretion by inhibiting carbonic anhydrase and is a sulfonamide derivative.

67. B. Atropine

Atropine produces the most complete cycloplegia, with effects that can last a week or more.

68. C. Stimulates alpha-1 receptors of the iris dilator

As an alpha-1 agonist it contracts the dilator muscle and leaves the parasympathetically controlled ciliary muscle alone.

69. C. Repeated use delays healing and can cause corneal ulceration

Chronic anesthetic use is toxic to the corneal epithelium, masks pain and can lead to severe keratopathy.

70. D. Neovascularization of the disc or elsewhere

Proliferative diabetic retinopathy is defined by new vessel growth caused by retinal ischemia.

71. A. Central retinal artery occlusion

Ischemic whitening of the inner retina makes the thin fovea, still fed by the choroid, stand out as a cherry-red spot.

72. D. Retinal detachment

Photopsia, new floaters and a curtain-like field loss suggest a retinal tear progressing to detachment, needing urgent referral.

73. A. Adenoviral conjunctivitis

Watery discharge, follicles and preauricular adenopathy following an upper respiratory infection point to adenovirus.

74. A. Starting a topical corticosteroid alone

A dendritic ulcer indicates herpes simplex epithelial keratitis; steroids alone can worsen viral replication.

75. C. Acanthamoeba

Acanthamoeba keratitis is linked to water exposure and classically causes intense pain and a ring infiltrate.

76. B. Keratoconus

A Fleischer ring and Vogt striae with progressive irregular astigmatism are hallmarks of keratoconus.

77. C. Posterior subcapsular cataract

Long-term steroid use is strongly associated with posterior subcapsular opacities, which especially affect near vision and glare.

78. A. Intravitreal anti-VEGF injections

These findings suggest neovascular AMD, which is treated with intravitreal anti-VEGF agents to halt choroidal neovascularization.

79. D. Raised intracranial pressure

Papilledema is bilateral disc swelling from increased intracranial pressure, and acuity is usually preserved early.

80. D. Chalazion

A chalazion is a chronic painless lipogranuloma of a blocked meibomian gland, unlike the tender acute hordeolum.

81. C. +1.00 D

Subtract the working distance lens: 1/0.50 = 2.00 D, so +3.00 - 2.00 = +1.00 D.

82. B. Add plus power

With motion means the far point lies behind the peephole, so plus is added until neutrality.

83. D. Toward the minus (red dot) axis of the cross cylinder

For a minus cylinder correction, the axis is rotated toward the minus axis of the cross cylinder in the preferred position.

84. B. Add minus power

Red letters clearer means the image is still in front of the retina, so more minus (or less plus) is needed.

85. D. -3.75 D

Spherical equivalent = sphere + half the cylinder = -3.00 + (-0.75) = -3.75 D.

86. A. A non-refractive cause of reduced vision

A pinhole improves vision limited by refractive error, so no improvement points to ocular pathology or amblyopia.

87. A. 1.50 D with-the-rule

The vertical meridian is steeper by 44.50 - 43.00 = 1.50 D, which is with-the-rule astigmatism.

88. D. -1.00 x 090

Corneal cylinder is -1.75 x 180; residual = refractive cyl - corneal cyl = -0.75 - (-1.75) = +1.00 x 180, or -1.00 x 090.

89. D. -4.00 D

Fitting 1.00 D steeper than K creates a +1.00 D tear lens, so the lens power is -3.00 - 1.00 = -4.00 D.

90. C. 45.00 D

F = 337.5 / r(mm) = 337.5 / 7.50 = 45.00 D.

91. A. Almost no movement on blinking with conjunctival indentation

A tight soft lens barely moves and may indent the conjunctiva, while the other findings indicate a loose fit.

92. A. 010

Using the left add, right subtract rule, 10 degrees is added: 180 + 10 = 190, which is written as axis 010.

93. C. Giant papillary conjunctivitis

Large upper tarsal papillae related to lens deposits and mechanical irritation define contact lens-associated GPC.

94. A. Refit with high-Dk silicone hydrogel lenses

Corneal neovascularization reflects chronic hypoxia, so increasing oxygen transmissibility is the key correction.

95. A. Oxygen transmissibility of the lens at its thickness

Dk is material permeability; dividing by thickness t gives transmissibility for the actual lens.

96. C. Right esotropia

The right eye was turned in and moves out to fixate when the left eye is covered, indicating a right esotropia.

97. B. 5x

Magnification = present acuity / target acuity = (6/12)/(6/60) = 60/12 = 5x.

98. A. +10.00 D

The add equals the reciprocal of the Snellen fraction: 200/20 = +10.00 D.

99. B. The macula

Metamorphopsia on the Amsler grid signals distortion of the macular photoreceptor layer, as in macular edema or neovascular AMD.

100. D. True IOP is probably higher than 17 mmHg

A thin cornea offers less resistance to applanation, so Goldmann tends to underestimate the true pressure.

101. A. Republic Act No. 8050

RA 8050 regulates optometry; the others are the nursing, medical technology and medical acts.

102. A. Professional Regulation Commission

The Board of Optometry is one of the professional regulatory boards under the PRC.

103. A. Release them only with the patient's written consent

Health information is confidential and should be disclosed only with the patient's consent or a lawful order.

104. A. Topical diagnostic pharmaceutical agents

The law's definition of optometric practice includes the use of diagnostic pharmaceutical agents for examination.

105. C. Provide the prescription to the patient

The prescription is part of the patient's care, and withholding it to force a sale is unethical.

106. D. Refer the patient to an ophthalmologist for evaluation

Findings suggestive of glaucoma require timely referral for diagnosis and treatment beyond optometric scope.

107. B. Expect blur and light sensitivity for some hours, so avoid driving

Informed consent includes the purpose and expected temporary effects of dilation, including the impact on driving.

108. B. The parent or legal guardian

Minors generally cannot give legally valid consent, so a parent or guardian must authorize the procedure.

109. D. Illegal practice of optometry

Refraction and prescribing are part of optometric practice and require a valid PRC license.

110. B. Guaranteed permanent cure of myopia in one week

Professional advertising must be truthful; promising guaranteed cures is misleading.

111. D. Republic Act No. 10912

RA 10912, the Continuing Professional Development Act of 2016, sets CPD requirements for professionals.

112. C. Republic Act No. 8981

RA 8981 modernized the Professional Regulation Commission and its regulatory boards.

113. D. Sensitive personal information

Health information is classified as sensitive personal information, which requires stricter protection.

114. D. Injury caused by the breach

Negligence requires duty, breach of the standard of care, causation and resulting damage.

115. D. Unlawful practice without a valid registration

Revocation removes the right to practice, so continued practice is illegal regardless of patient consent.

116. A. Conflict of interest that undermines patient trust

Undisclosed kickbacks put financial gain ahead of patient welfare and are considered unethical.

117. D. Autonomy

Autonomy recognizes the competent patient's right to decide after being informed; the refusal should be documented.

118. C. Justice

Justice concerns fair and equal treatment of patients.

119. B. Draw a single line through it, write the correction, then initial and date

Corrections must keep the original entry legible and traceable to preserve the record's integrity.

120. C. To identify children who need a full eye examination

Screening is a quick filter that refers children with possible problems for full examination; it is not diagnostic.

Topics to review

• Geometric and ophthalmic optics

• Refraction and binocular vision

• Ocular anatomy and disease recognition

• Contact lenses, low vision and practical skills

Online question banks and study resources

Optometrist written exam - Pass Harbor (Question bank)

Official PRC board information

Current PRC exam programs

Independent study material prepared by Board Exam Desk.