

Advanced Concepts in Colors and Shapes

Colors & Shapes · Answer Key · 18 Questions

1. In additive color mixing, what primary color is produced when red and blue light are combined in equal intensity?

- A) Yellow
- B) Cyan
- C) Magenta**
- D) Green

2. What is the term for a polygon with 11 sides and 11 angles?

- A) Hendecagon**
- B) Dodecagon
- C) Icosagon
- D) Tridecagon

3. Which color is perceived when an object absorbs all wavelengths of visible light and reflects none?

- A) White
- B) Black**
- C) Red
- D) Blue

4. What is the mathematical term for a three-dimensional object with two parallel circular bases connected by a curved surface?

- A) Cone
- B) Sphere
- C) Cylinder**
- D) Pyramid

5. The Munsell color system organizes colors based on hue, value, and what other dimension?

- A) Saturation
- B) Brightness
- C) Luminance
- D) Chroma**

6. In Euclidean geometry, what is the minimum number of lines required to enclose a finite area?

- A) Two
- B) Three**
- C) Four
- D) One

7. What phenomenon causes the sky to appear blue due to the scattering of sunlight by atmospheric particles?

- A) Rayleigh scattering**
- B) Mie scattering
- C) Refraction
- D) Diffraction

8. A shape with four equal sides and four right angles is classified as which type of quadrilateral?

- A) Rhombus
- B) Rectangle
- C) Trapezoid
- D) Square**

9. Complementary colors, when mixed in subtractive color systems (like pigments), produce what color?

- A) Gray or black**
- B) White
- C) Brown
- D) A pure spectral color

10. What is the name for a regular polyhedron with 8 faces, all of which are equilateral triangles?

- A) Tetrahedron
- B) Cube
- C) Octahedron**
- D) Dodecahedron

11. The psychological perception of color is influenced by various factors, but which color is often associated with calmness and serenity?

- A) Red
- B) Yellow
- C) Blue**
- D) Orange

12. In trigonometry, what is the name of the angle that measures exactly 90 degrees?

- A) Acute angle
- B) Obtuse angle
- C) Right angle**
- D) Straight angle

13. The spectral color violet is at the lower end of the visible spectrum, with a wavelength typically around which nanometer range?

- A) 620-740 nm
- B) 570-590 nm
- C) 450-495 nm
- D) 380-450 nm**

14. What is the geometric term for a set of points in a plane that are equidistant from a fixed point (the center)?

- A) Ellipse
- B) Parabola
- C) Circle**
- D) Hyperbola

15. The process by which white light is split into its constituent colors when passing through a prism is known as what?

- A) Interference
- B) Polarization
- C) Dispersion**
- D) Diffraction

16. A triangle with all three sides of equal length is called an equilateral triangle. What are the measures of its internal angles?

- A) 30°, 60°, 90°
- B) 45°, 45°, 90°
- C) 60°, 60°, 60°**
- D) Variable, depending on side lengths

17. What is the primary color in the CMYK (Cyan, Magenta, Yellow, Key/Black) color model used in printing?

- A) Red
- B) Green
- C) Blue
- D) Magenta**

18. In geometry, what is the name given to a line segment that connects two non-adjacent vertices of a polygon?

- A) Side
- B) Radius
- C) Diameter
- D) Diagonal**