



Name _____ Class _____ Roll no. _____ Date _____ Marks _____ / 39

1 Key words**[4]**

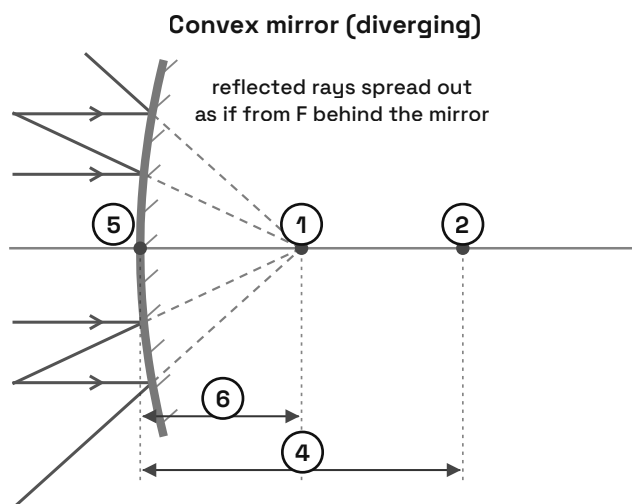
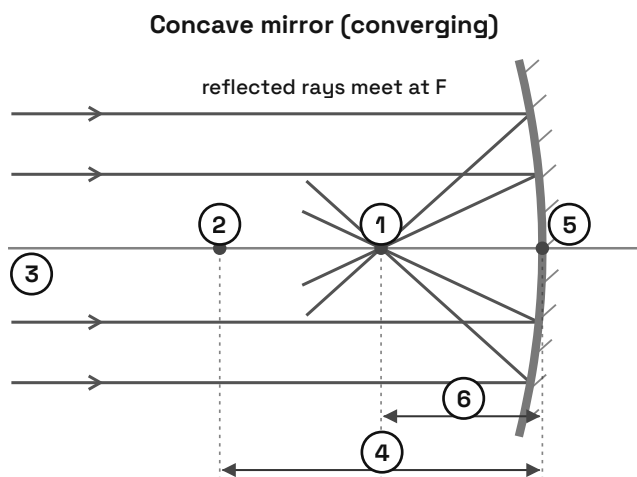
Fill in the blanks with words from the box. Two words in the box are not needed. Each blank carries 0.5 mark.

amplitude concave convex focal length frequency pole real image
reflection of light virtual image wavelength

The bouncing back of light after it strikes a surface is called the _____. A spherical mirror whose reflecting surface is curved inwards is a _____ mirror, and one that bulges outwards and spreads the rays out is a _____ mirror. The middle point of the reflecting surface of a spherical mirror is its _____, and the distance from it to the principal focus is the _____. An image that can be obtained on a screen is a _____. The number of complete waves produced in one second is the _____ of a sound, and the largest distance the particles of the medium move from their mean position is its _____.

2 Label the diagram**[3]**

The diagram shows the terms for a concave mirror (left) and a convex mirror (right). Write the names of the points and lines numbered 1 to 6. Each carries 0.5 mark.



1. _____
2. _____
3. _____
4. _____
5. _____

2. _____
4. _____
6. _____



3 Multiple choice

[5]

Choose the correct option for each of the following questions.

- i. Which mirror can make a real image of an object? [1]
 - a. plane mirror
 - b. concave mirror
 - c. convex mirror
 - d. every spherical mirror
- ii. A ray of light passing through the center of curvature of a concave mirror: [1]
 - a. passes through the focus after reflection
 - b. is reflected back along the same path
 - c. is reflected parallel to the principal axis
 - d. spreads out from the mirror
- iii. What is the range of frequency of audible sound? [1]
 - a. 2 Hz to 20 Hz
 - b. 20 Hz to 20 kHz
 - c. 20 Hz to 200 kHz
 - d. 20 Hz to 200 Hz
- iv. Which of these animals can produce and hear ultrasound? [1]
 - a. elephant
 - b. bat
 - c. crocodile
 - d. blue whale
- v. What happens to the intensity of a sound when its amplitude is greater? [1]
 - a. it is more
 - b. it is less
 - c. it stays the same
 - d. it may be more or less

4 Very short answers

[3]

Write very short answers to the following questions.

- a. A concave mirror is cut from a sphere of radius 40 cm. What is its focal length? [1]
-
-
- b. Which mirror is used as the side mirror of a vehicle? [1]
-
-
- c. What is the SI unit of frequency? [1]

5 Short answers

[8]

Write short answers to the following questions.

- a. Give a reason: a concave mirror is used in solar cookers. [2]
-
-
-



b. Give a reason: convex mirrors and plane mirrors can't produce a real image. [2]

c. Write any two differences between a real image and a virtual image. [2]

d. Why does a sound sound fainter as the listener moves away from its source? [2]

6 Long answers [8]

Write long answers to the following questions.

a. Write any four differences between a concave mirror and a convex mirror. [4]

b. What is an ultrasonic wave? Write any three uses of ultrasound. [4]



[6]

a. The speed of sound in air is 332 m/s. Find the wavelength of a sound of frequency 10 Hz.

[illegible]

Answer:

- [2]

[illegible]

Answer:

- [2]

[illegible]

Answer:

[2]

In a storm, Asha counts 9 seconds between a flash of lightning and its thunder. About how far away is the storm? Why does she see the flash before she hears the thunder? (Sound travels about 1 km in 3 seconds.)

(not marked)

Mirror	Picture on the card? (yes/no)	Distance from mirror to card (cm)	Upright or upside down?
concave			
convex			
plane			