Q.1 A plane mirror makes an angle of 30° with the horizontal. If a ray strikes the mirror vertically as shown in the figure, find the angle of deviation from the incident ray.



Q.2 Which of the following graphs correctly represents the variation of angle of deviation (δ) with the variation in angle of incidence i for a plane mirror?



Q.3 If an incident ray directed towards a corner reflected as shown, at what angle (θ) does the reflected ray emerge?



Q.4 In the figure shown below, a ray is incident on a plane mirror. Find the value of θ for which the ray retraces its path after the third reflection.



Q.5 Figure shows a plane mirror onto which a light ray is incident. If the incident light ray is turned by 10° and the mirror by 20° as shown in the figure, then the angle turned by the reflected ray will be.



Q.6 In the figure shown, the incident ray is rotated by 2° in clockwise sense, the mirror is rotated by 8° in clockwise sense, then the angle by which reflected ray will be rotated is.



Q.7 In the given figure, by what angle should the mirror be rotated such that the reflected ray becomes horizontal along positive x - axis?



Q.8 Two plane mirrors are arranged parallel to one another each moving with a speed u as shown in figure. The linear velocity of the Nth image formed by mirror, of a point object (w.r.t object) placed in front of the first mirror is.



Q.9 Find the velocity of the image, when the object and mirror are in motion as shown in the figure below.



Q.10A plane mirror is receding away from an observer at rest with a speed of 5 cm/s. If the observer can
see his image in the mirror, then image recedes away with speed of
(A)25 cm/s(B)15cm/s(C)20cm/s(D)10cm/s

ANSWER KEY

Q.	1	2	3	4	5	6	7	8	9	10
Sol.	(D)	(C)	(B)	(B)	(A)	(D)	(C)	(D)	(D)	(D)