



PHYSICS

BOOKS - TARGET PUBLICATION

REFLECTION OF LIGHT

Exercise

1. Fill in the blanks :

The sense of Is used to see the objects around us .



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2. Fill in the blanks :

The perpendicular to the mirror at the point of incidence is called



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3. Fill in the blanks :

The angle between incident ray and the normal is called angle of





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4. Fill in the blanks :

The angle of reflection is To the angle of incidence .



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5. Fill in the blanks :

The incident ray , the reflected ray and the Lie in the same plane .



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6. Fill in the blanks :

When light rays are incident on a smooth surface , they undergo Reflection .



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7. Fill in the blanks :

The reflection of light from a wooden surface is Reflection .



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8. Fill in the blanks :

All the reflected rays from regular surface are
..... To each other .



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9. Fill in the blanks :

Moon is not , hence the sunlight falling
on the surfaces of the moon is reflected .



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10. Fill in the blanks :

Wallpapers which are used to decorate walls are designed using



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11. Fill in the blanks :

The working of kaleidoscope is based on the properties of



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12. Select the appropriate options and complete the following paragraph :

(incidence, different, reflected,
normal,incident, equal,not
equal,same,opposite)

The rays falling on a surface are called
Rays . The point on the surface at which an
incident ray falls is called as point of The
rays going away from the surface after
reflection are called rays . the direction
of these rays is given by certain rules called as
laws of reflection . according to laws of

reflection , the angle of reflection is to the angle of incidence . the incident ray , the reflected ray and the normal lie in the plane . the incident ray and the reflected ray are on the sides of the normal .



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13. Choose the correct alternative :

The angle between the normal and the plane mirror is

A. 180°

B. 45°

C. 90°

D. 0°

Answer:



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14. Choose the correct alternative :

If the angle between the incident ray and normal is 40° , then the angle between the reflected ray and normal will be

A. 50°

B. 40°

C. 45°

D. 90°

Answer: D



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15. Choose the correct alternative :

If the angle between the incident ray and

reflected ray is 118° , the angle of reflection is

.....

A. 59°

B. 118°

C. 88°

D. 90°

Answer:



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16. Choose the correct alternative :

In Kaleidoscope , the mirrors are placed
to each other .

A. perpendicular

B. parallel

C. inclined at angle 45°

D. inclined at angle 60°

Answer: A::C::D



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17. Name the following :

The phenomenon in which light rays fall on an object , their direction changes and they turn back .



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18. Name the following :

Point at which an incident ray falls .



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19. Name the following :

Line perpendicular to the mirror at the point of incidence .



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20. Name the following :

Angle between reflected ray and normal .



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21. Name the following :

Angle between incident ray and normal .



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22. Name the following :

It is used to see different designs formed due to multiple reflections .



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23. Right or wrong . If wrong , write the correct sentence :

There is some connection between the sense of vision and light .



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24. Right or wrong . If wrong , write the correct sentence :

Angle of incidence is always greater than angle of reflection .





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25. Right or wrong . If wrong , write the correct sentence :

The incident ray and the reflected ray lies on the same side of the normal .



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26. Right or wrong . If wrong , write the correct sentence :

The reflection of light rays in irregular

reflection is obtained due to the irregular/rough surface .



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27. Right or wrong . If wrong , write the correct sentence :

Periscope is used in submarines to see objects above the surface of water .



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28. Odd one out :

plane mirror , rough tile , sand paper , surface of brick .



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29. Odd one out :

Mirror in salon , image of moon in water , periscope , transparent window



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30. Complete the analogy :

..... : used to see different designs ::

periscope : used in submarines .



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31. Complete the analogy :

Angle of incidence : 60° :: Angle of reflection :

.....



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32. Complete the analogy :

Smooth surface : Regular reflection of light ::

Rough surface :



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33. Match the following :

Match group 'A' with group 'B' :

Group 'A'		Group 'B'	
i.	Kaleidoscope	a.	submarines
ii.	Regular reflection of light	b.	rough surface
iii.	Irregular reflection of light	c.	new designs
iv.	Periscope	d.	Smooth surface



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34. Answer the following :

How will you explain the statement 'we cannot see the objects in a dark room ' ?



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35. Answer the following :

What is meant by light reflected by an object ?



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36. Answer the following :

State the laws of reflection of light .



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37. Answer the following :

State the difference between angle of incidence and angle of reflection .



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38. Answer the following :

Describe an experiment to prove that the angle of incidence is equal to the angle of reflection .



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39. Answer the following :

What will happen when a light ray is incident perpendicular to the mirror ?



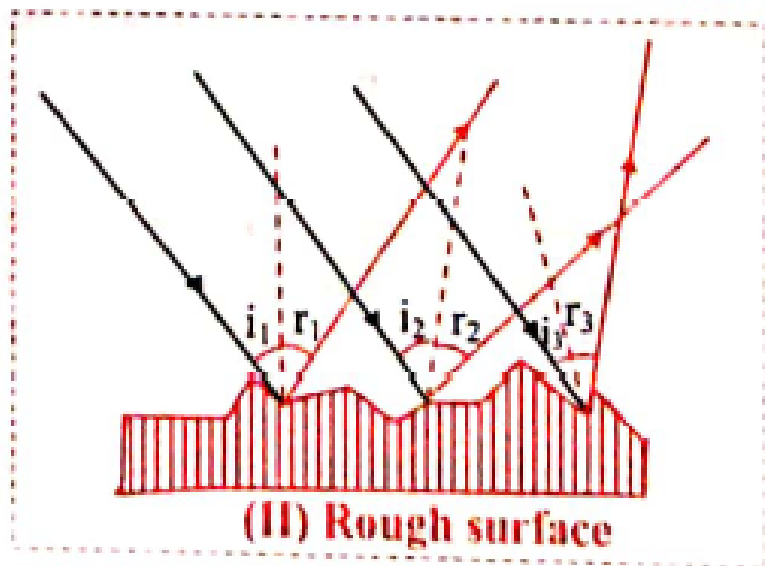
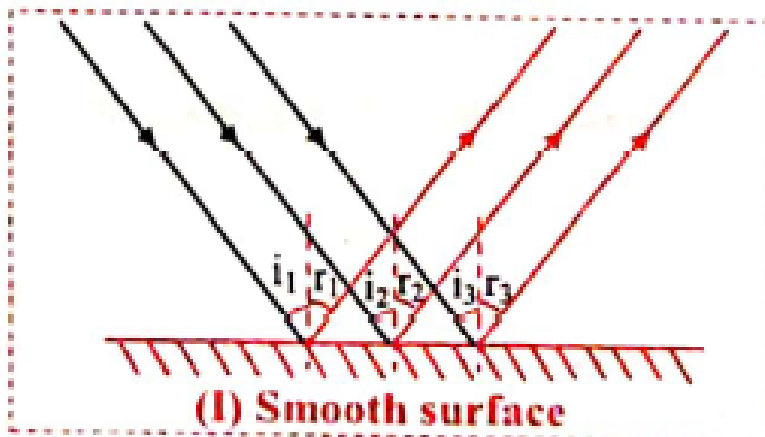
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40. Answer the following :

Figure (I) and (II) show three parallel rays , shown in black , incident on smooth and rough surfaces . The reflected rays are drawn using laws of reflection shown in colour :

Rays reflected from which surface are parallel

to one another ? :



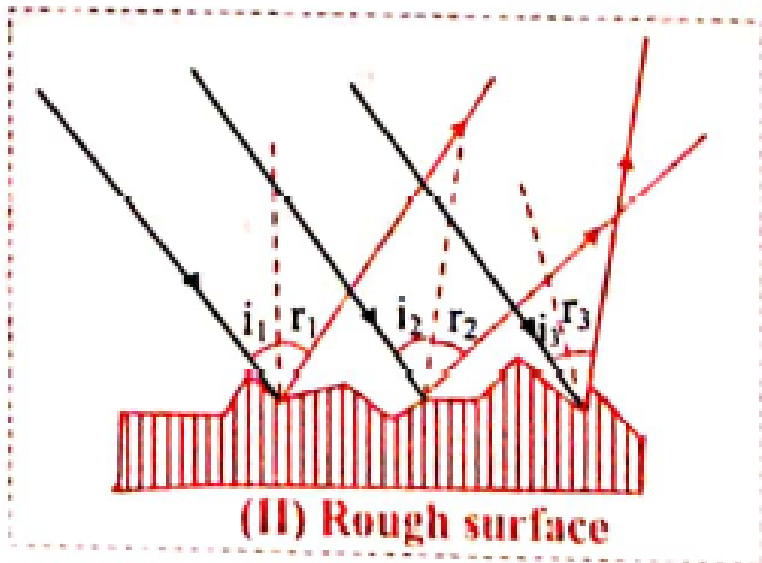
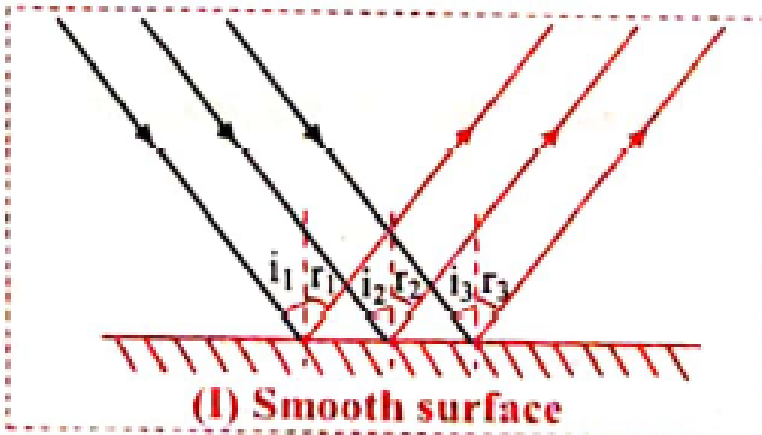
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41. Answer the following :

Figure (I) and (II) show three parallel rays , shown in black , incident on smooth and rough surfaces . The reflected rays are drawn using laws of reflection shown in colour :

What conclusion can you draw from the figure

?:



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42. Answer the following :

Classify the below surfaces into forming regular reflection of light and irregular reflection of light :

(surface of the mirror , glazed tiles , soles of shoes , surfaces of tyres , floor of the room when polished , surface of an oily pot , surface of a brick , unpainted wall).



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43. Answer the following :

How do you see if the barber in a saloon has cut the hair on your neck properly or not ?



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44. Answer the following :

What type of image do we see in a mirror ?

What happens to the left and right sides ?



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45. Give reasons :

We are able to see the image of the moon in water .



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46. Answer the following :

Explain the construction and working of a kaleidoscope with the help of a diagram .



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47. Answer the following :

state some uses of kaleidoscope ?



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48. Answer the following :

Explain the construction and working of a periscope with the help of a diagram .



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49. Answer the following :

Write short note on uses of periscope ?



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50. Answer the following :

Give any four examples where multiple reflection of light occurs .



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51. Give reasons :

In irregular reflection of light , the reflected rays are not parallel to one another .



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52. Give reasons :

It is easier to read from rough pages than glossy pages .



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53. Give reasons :

We are able to see the image of the moon in water .



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54. Distinguish between :

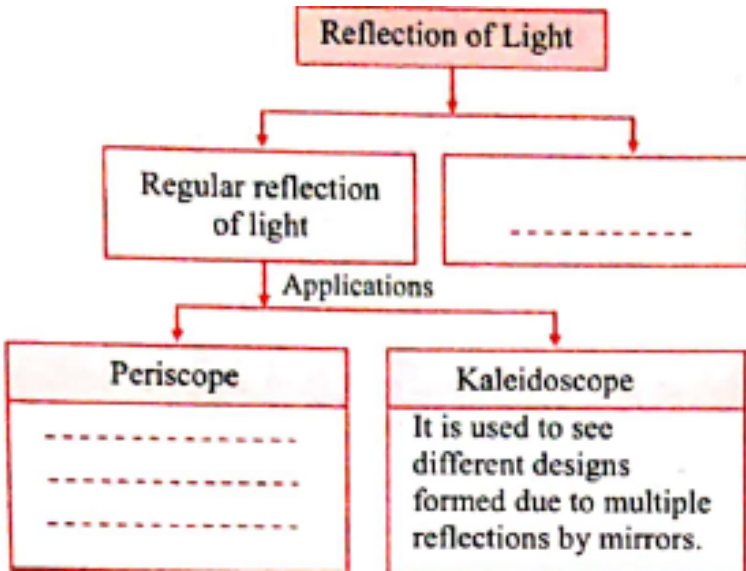
Explain the difference between regular and irregular reflection of light .



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55. Complete the given chart/ table :

Complete the following flow chart :

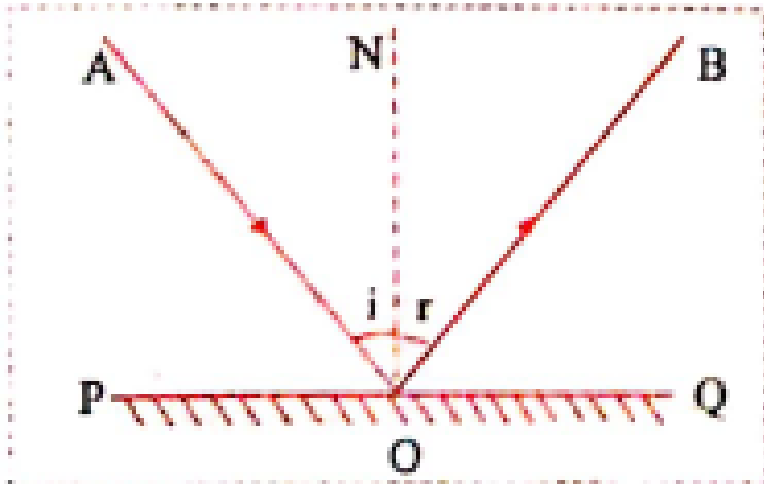


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56. Questions based on diagram :

Draw a figure showing the following :

Incident ray :

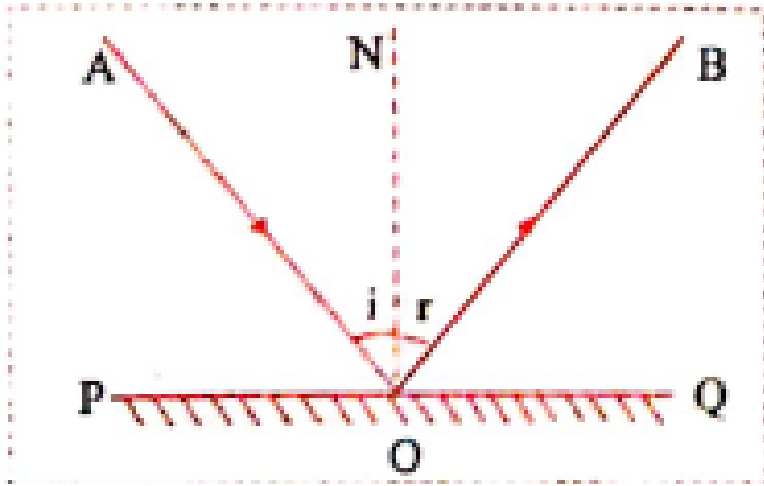


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57. Questions based on diagram :

Draw a figure showing the following :

Normal :

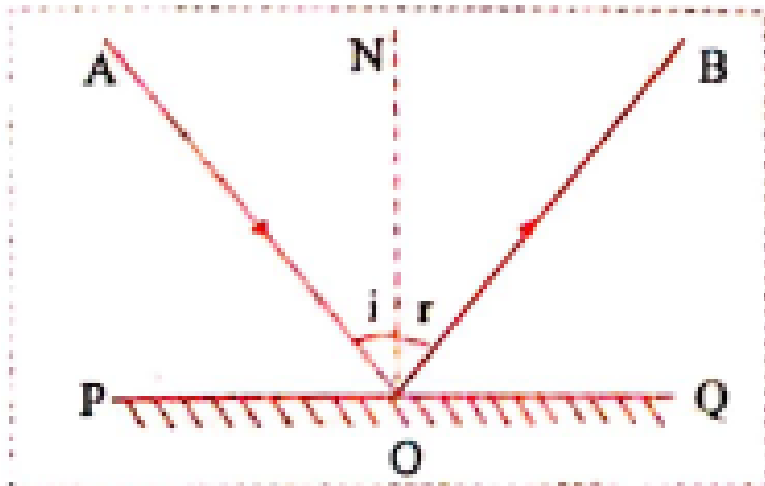


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58. Questions based on diagram :

Draw a figure showing the following :

Angle of incidence :

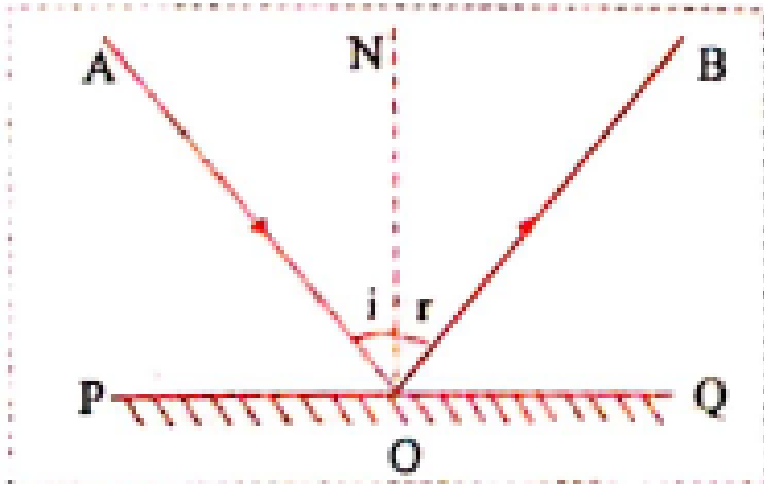


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59. Questions based on diagram :

Draw a figure showing the following :

Angle of reflection :

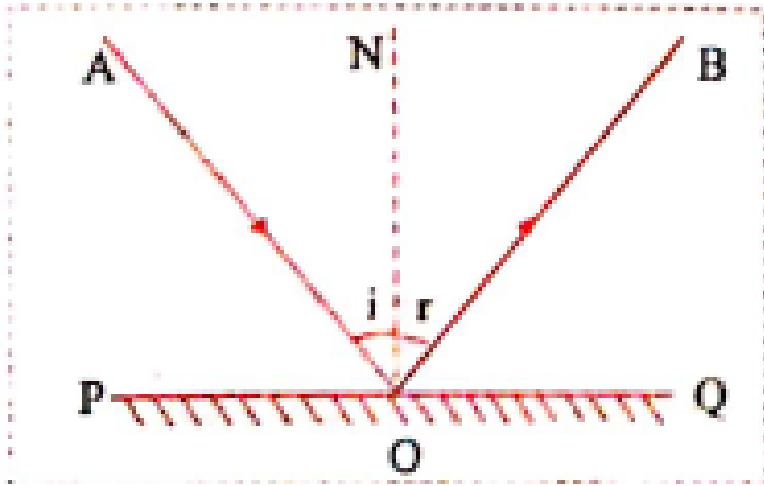


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60. Questions based on diagram :

Draw a figure showing the following :

Point of incidence :

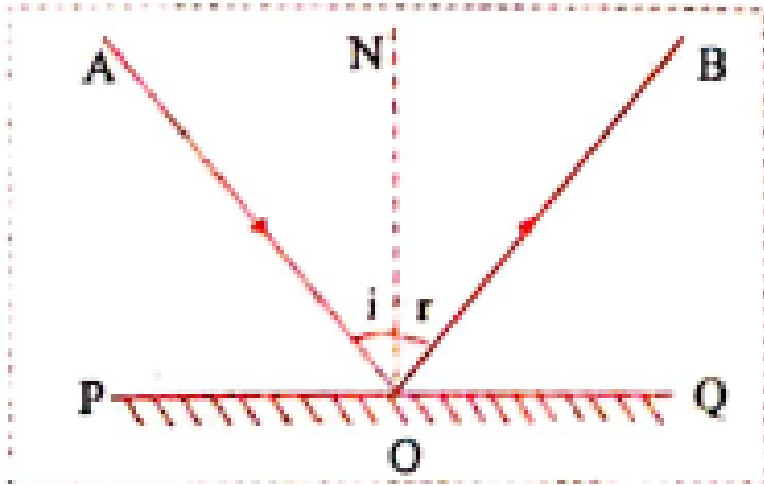


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61. Questions based on diagram :

Draw a figure showing the following :

Reflected rays :



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62. Questions based on diagram :

Draw a figure describing the following :

The reflecting surfaces of two mirrors make an angle of 90° with each other . If a ray incident

of one mirror has an angle of incidence of 30° ,
draw the ray reflected from the second mirror .
what will be its angle of reflection ?

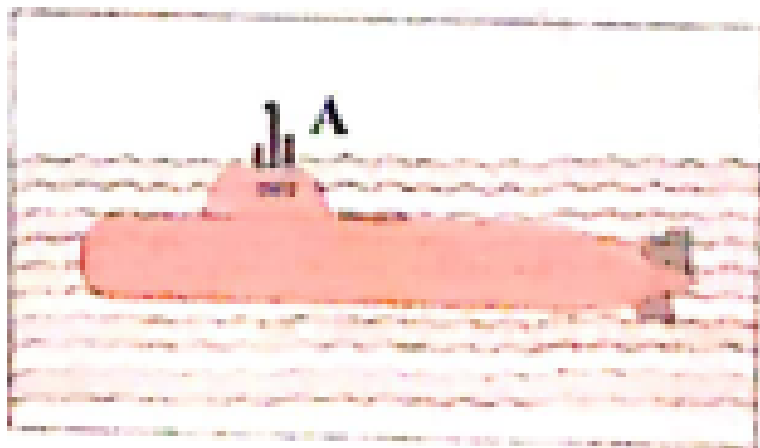


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63. Questions based on diagram :

Identify the part A in the figure given below

and state its use .:



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64. Questions based on paragraph :

Study the following incident :

Swara and yash were looking in a water filled vessel . They could see their images clearly in

the still water . At that instant , yash threw a stone in the water . Now their images were blurred . swara could not understand the reason for the blurring of the images . :

explain the reason for blurring of the images to swara by answering the following questions :

Is there a relation between the reflection of light and the blurring of the images ?



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65. Questions based on paragraph :

Study the following incident :

Swara and yash were looking in a water filled vessel . They could see their images clearly in the still water . At that instant , yash threw a stone in the water . Now their images were blurred . swara could not understand the reason for the blurring of the images . :

explain the reason for blurring of the images to swara by answering the following questions

:

Which types of reflection of light can you notice from this ?



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66. Questions based on paragraph :

Study the following incident :

Swara and yash were looking in a water filled vessel . They could see their images clearly in the still water . At that instant , yash threw a stone in the water . Now their images were blurred . swara could not understand the

reason for the blurring of the images . :

explain the reason for blurring of the images

to swara by answering the following questions

:

Are laws of reflection followed in these types of reflection ?



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67. Solve the following problems :

If the angle of incidence is 40° then what must be the angle of reflection ?



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68. Solve the following problems :

If the reflected ray makes an angle of 60° with the normal , what angle must the incident ray make with the normal ?



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69. Solve the following problems :

If the angle between the reflected ray and the

incident ray is 100° , than what will be the value of angle of reflection ?



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70. Solve the following problems :

If the angle between the incident ray and the reflected ray is 90° , what are the values of the angle of incidence and angle of reflection ?



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71. Solve the following problems :

The angle between the plane mirror and incident ray is 35° , what is the angle of incidence and angle of reflection ?



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72. Solve the following problems :

If the angle between the plane mirror and the incident ray is 40° , what are the angles of incidence and reflection ?





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73. Solve the following problems :

What angle will the reflected ray make with the mirror if the angle of incidence is 40° ?



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74. Solve the following problems :

If the angle between the mirror and reflected ray is 23° , what is the angle of incidence of the incident ray ?



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75. Solve the following problems :

What will be the angle between the incident ray and reflected ray , if the angle between the reflected ray and plane mirror is 25° ?



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76. Solve the following problems :

If the angle of incidence is 40° then what must

be the angle of reflection ?



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77. Practice Problems :

If the reflected ray makes an angle of 70° with the normal , what angle must the incident ray make with the normal ?



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78. Solve the following problems :

If the angle between the reflected ray and the incident ray is 100° , than what will be the value of angle of reflection ?



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79. Practice Problems :

If the angle between the incident ray and the reflected ray is 110° , what are the values of the angle of incidence and reflection ?





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80. Practice Problems :

The angle between the plane mirror and incident ray is 25° , what is the angle of incidence and angle of reflection ?



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81. Practice Problems :

What angle will the reflected ray make with the mirror if the angle of incidence is 75° ?



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82. Practice Problems :

If the angle between the plane mirror and the incident ray is 50° , what will be the angle of reflection ?



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83. Practice Problems :

If the angle between the mirror and reflected

ray is 63° , what is the angle of incidence ?



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84. Practice Problems :

What will be the angle between the incident ray and reflected ray , if the angle between the reflected ray and the plane mirror is 32° ?



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85. Switch off the light in your room at night for some time and then turn it on again :

Could you see the objects in the room clearly when the light was switched off ?



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86. Switch off the light in your room at night for some time and then turn it on again :

What did you feel when it was turned on again ?





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87. Apollo astronauts who stepped on the moon have kept some large mirrors there .
Collect information about how the distance to the moon is measured using these .



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88. Answer the following :

Name the following :

Rays going away from the surface after reflection .



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89. Fill in the blanks :

The angle between incident ray and the normal is called angle of



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90. Answer the following :

State right or wrong . If wrong , write the correct sentence :

Laws of reflection are followed in regular reflection of light but are not followed in irregular reflection of light .



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91. Answer the following :

Complete the given analogy :

Kaleidoscope : used to see different designs ::

..... : used in submarines .



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92. Answer the following :

Match the type of surface given in column I

with the type of reflection in column II :

Match the surface given in Column I with the type of reflection in Column II

Column I		Column II	
a.	Smooth surface	1.	Irregular reflection
b.	Rough surface	2.	Regular reflection
		3.	Multiple reflection



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93. Choose the correct alternative :

The angle of incidence is angle of reflection .

A. equal to

B. less than

C. greater than

D. greater than or equal to

Answer:



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94. Choose the correct alternative :

The perpendicular drawn to the plane surface is called as

A. tangent

B. incident ray

C. reflected ray

D. normal

Answer:



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95. Choose the correct alternative :

If the angle of incidence is 35° then the angle between the incident ray and the plane mirror is

A. 70°

B. 35°

C. 55°

D. 90°

Answer:



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96. Answer the following :

Why are objects in a dark room not clearly visible ?



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97. Answer the following :

Give any four examples where multiple reflection of light occurs .



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98. Answer the following :

If the angle of reflection is 40° , what angle must the incident ray make with the normal ?



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99. Answer the following :

State three laws of reflection of light .

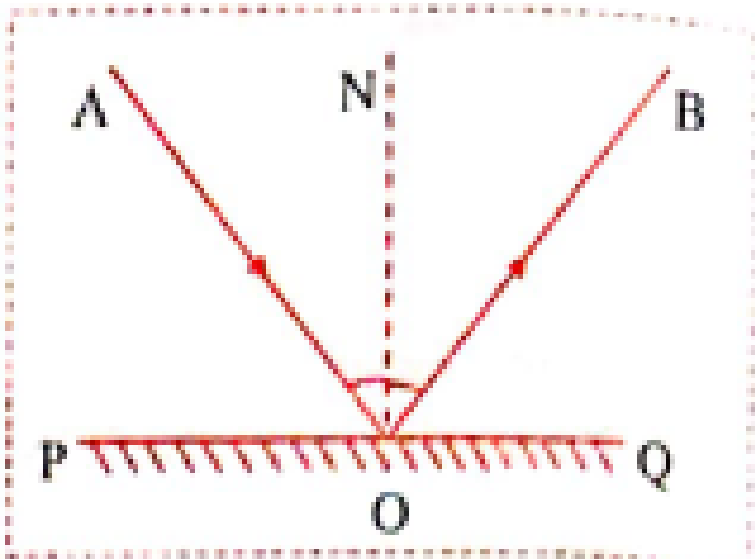


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100. Answer the following :

Answer the following question based on the given diagram :

Which rays do AO and OB denote ?:

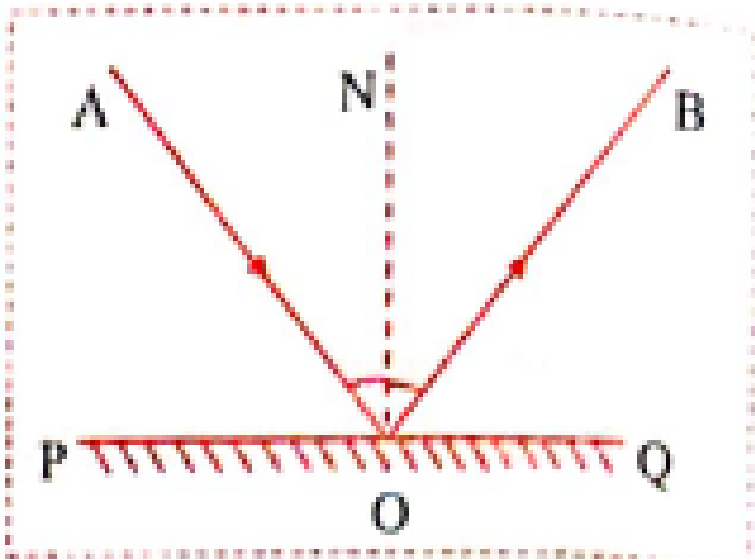


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101. Answer the following :

Answer the following question based on the given diagram :

What are angles $\angle AON$ and $\angle BON$ called ?:

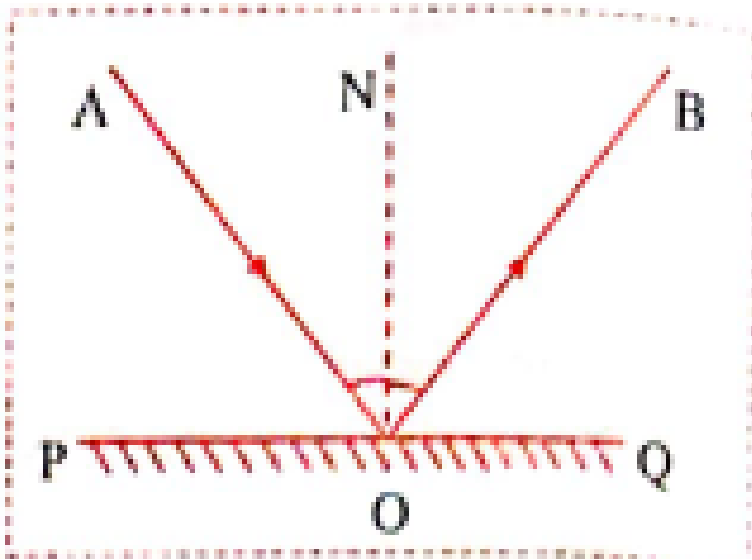


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102. Answer the following :

Answer the following question based on the given diagram :

What do point 'O' and line 'ON' denote ? :

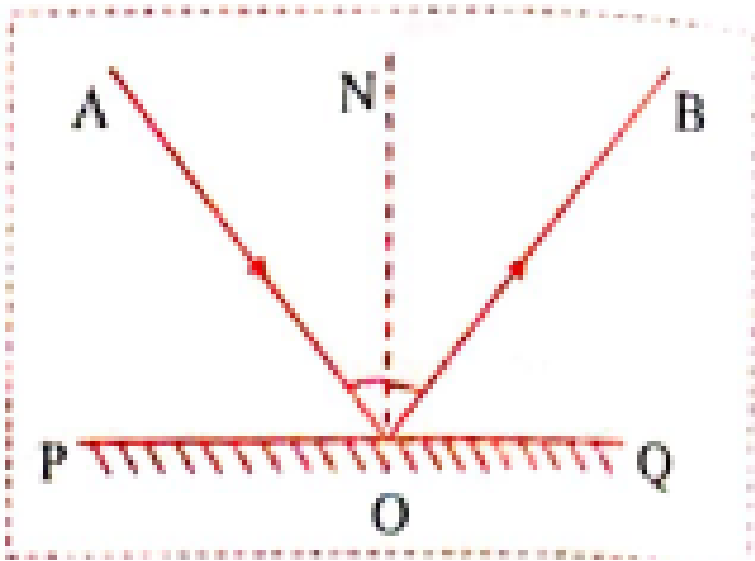


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103. Answer the following :

Answer the following question based on the given diagram :

What will be the values of $\angle PON$ and $\angle QON$? :

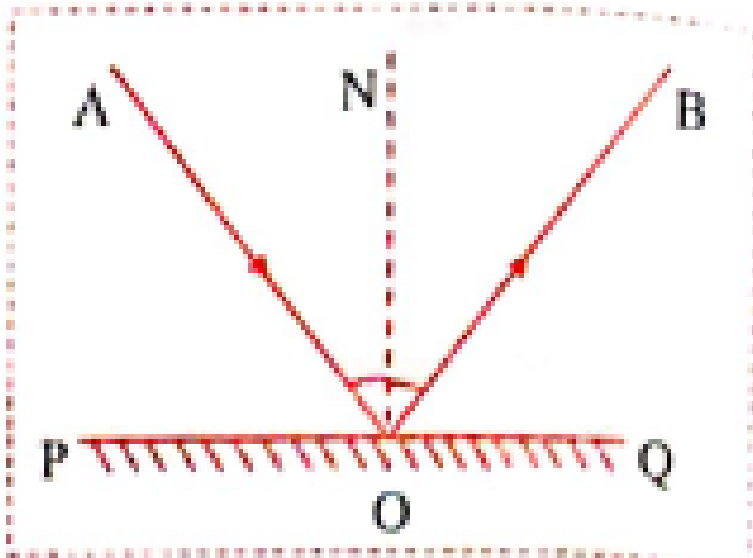


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104. Answer the following :

Answer the following question based on the given diagram :

What is the relation between $\angle AON$ and $\angle BON$? :



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105. Answer the following :

Explain regular and irregular reflection of light with the help of neat diagrams .



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