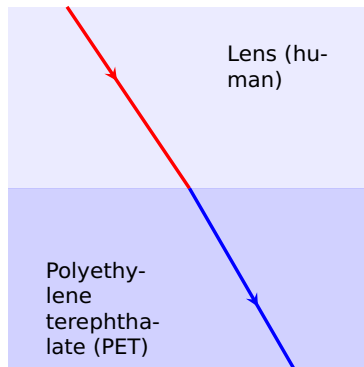
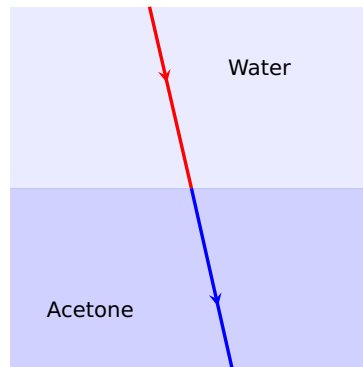


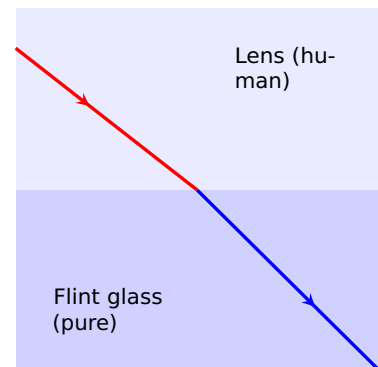
For each of the following ray diagrams measure the angles of incidence, i , and refraction, r .



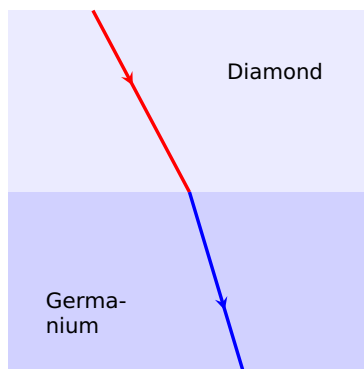
1) $i =$
 $r =$



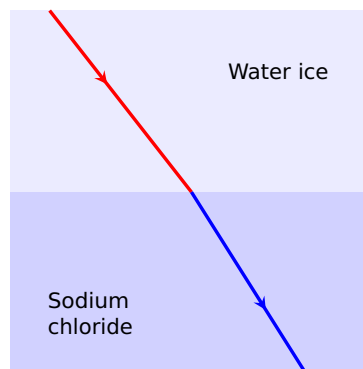
2) $i =$
 $r =$



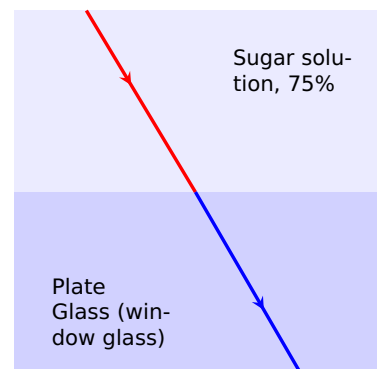
3) $i =$
 $r =$



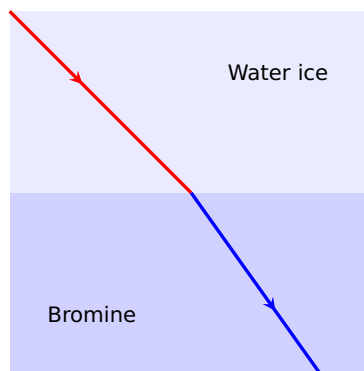
4) $i =$
 $r =$



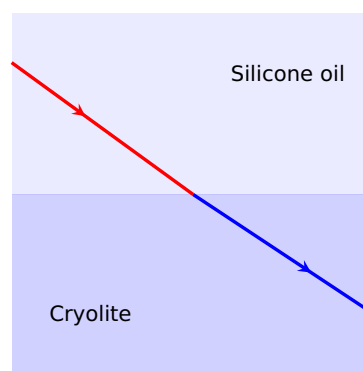
5) $i =$
 $r =$



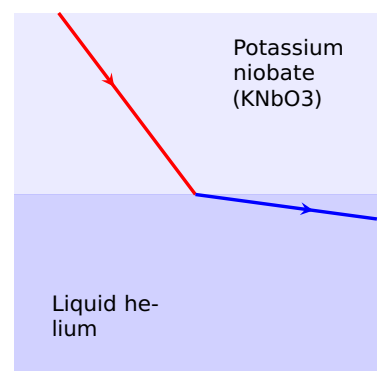
6) $i =$
 $r =$



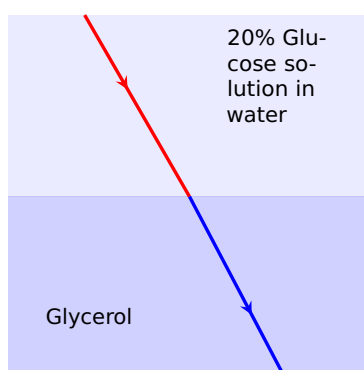
7) $i =$
 $r =$



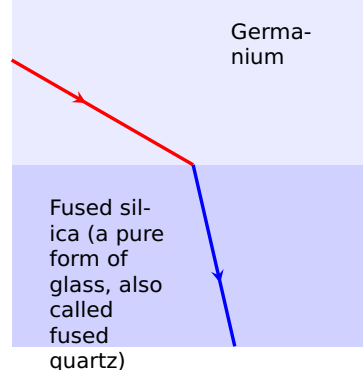
8) $i =$
 $r =$



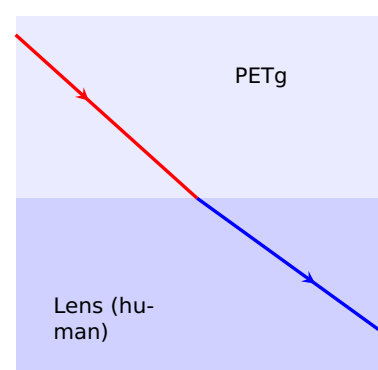
9) $i =$
 $r =$



10) $i =$
 $r =$



11) $i =$
 $r =$



12) $i =$
 $r =$

Answers

- 1) $i=34^\circ$, $r=30^\circ$
- 2) $i=13^\circ$, $r=13^\circ$
- 3) $i=52^\circ$, $r=45^\circ$
- 4) $i=28^\circ$, $r=17^\circ$
- 5) $i=38^\circ$, $r=32^\circ$
- 6) $i=31^\circ$, $r=30^\circ$
- 7) $i=45^\circ$, $r=35^\circ$
- 8) $i=54^\circ$, $r=57^\circ$
- 9) $i=37^\circ$, $r=82^\circ$
- 10) $i=30^\circ$, $r=28^\circ$
- 11) $i=60^\circ$, $r=13^\circ$
- 12) $i=48^\circ$, $r=54^\circ$