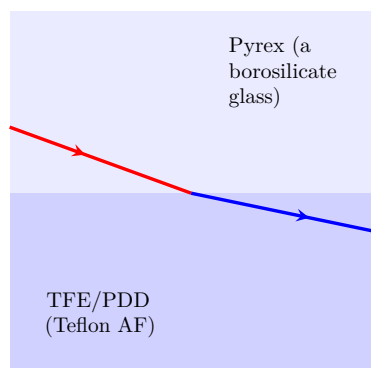


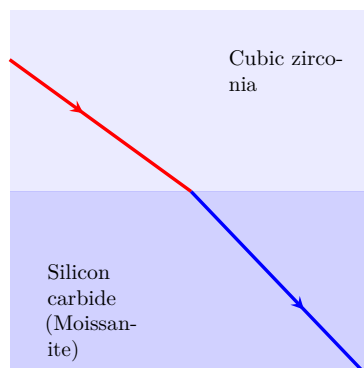
Measuring Angles

Refraction

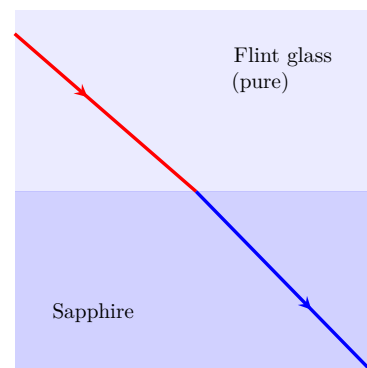
For each of the following ray diagrams measure the angles of incidence, i , and refraction, r .



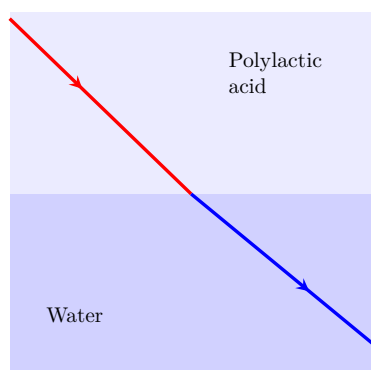
1) $i =$
 $r =$



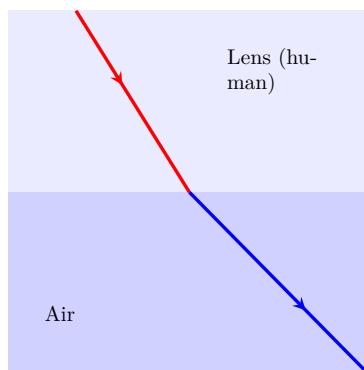
2) $i =$
 $r =$



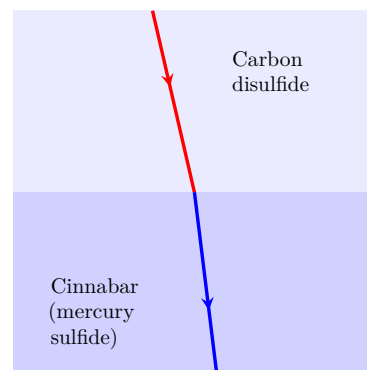
3) $i =$
 $r =$



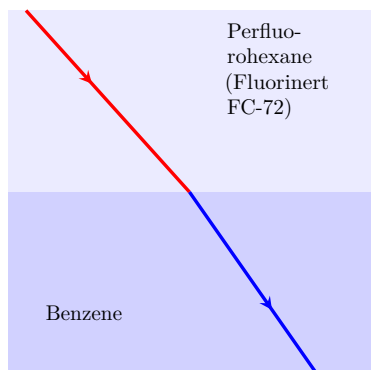
4) $i =$
 $r =$



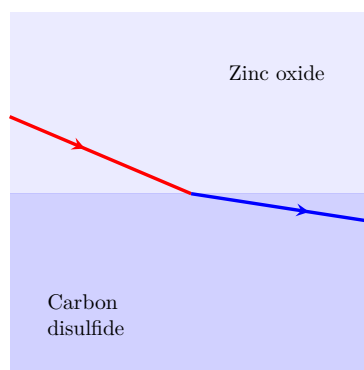
5) $i =$
 $r =$



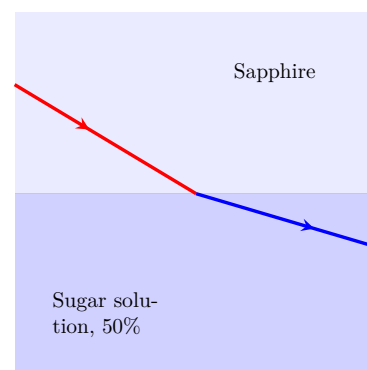
6) $i =$
 $r =$



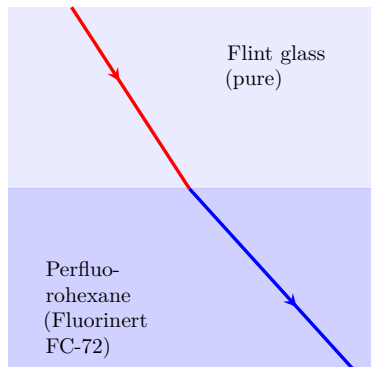
7) $i =$
 $r =$



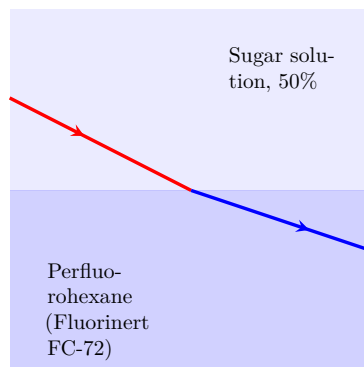
8) $i =$
 $r =$



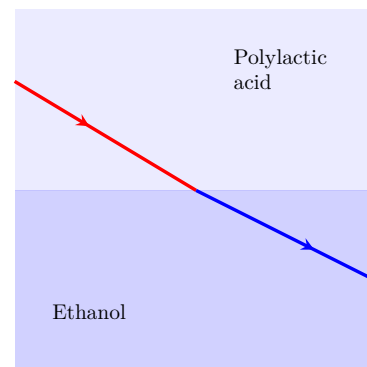
9) $i =$
 $r =$



10) $i =$
 $r =$



11) $i =$
 $r =$



12) $i =$
 $r =$

Answers

- 1) $i=70^\circ$, $r=78^\circ$
- 2) $i=54^\circ$, $r=44^\circ$
- 3) $i=49^\circ$, $r=44^\circ$
- 4) $i=46^\circ$, $r=50^\circ$
- 5) $i=32^\circ$, $r=45^\circ$
- 6) $i=13^\circ$, $r=7^\circ$
- 7) $i=42^\circ$, $r=35^\circ$
- 8) $i=67^\circ$, $r=81^\circ$
- 9) $i=59^\circ$, $r=74^\circ$
- 10) $i=33^\circ$, $r=42^\circ$
- 11) $i=63^\circ$, $r=72^\circ$
- 12) $i=59^\circ$, $r=63^\circ$