With your carefully drawn map, the cat burglar is able to gracefully, weave, duck, and leap over the lasers like a dancer. The rest of the team follows closely behind, a stark contrast – slow, deliberate, your movements punctuated by nervous breaths. The air crackles with tension as you navigate the laser maze. Finally, the end comes into view. You surge forward, only to stop abruptly. A chorus of startled yelps erupts from behind as you halt your progress. But the protests die in their throats as your companions round the corner and witness the spectacle for themselves. All around the room there are glittering rubies, sapphires mirroring the ocean's depths, and massive geodes – a treasure trove of geological wonders. But the crown jewel awaited. There, in the centre, bathed in a kaleidoscope of refracted light, lay five magnificent diamonds. The catch? Only one was an actual diamond. Time to separate the real from the dazzlingly fake.

| Substance | Index of Refraction |
| --- | --- |
| quartz | 1.47 |
| glass | 1.52 |
| plastic | 1.59 |
| cubic zirconia | 2.18 |
| diamond | 2.42 |

Gem 1: When a ray of light makes an angle of incidence of 45o with the gem, the refracted angle is observed to be 26.4o.

Gem 2: When a ray of light makes an angle of incidence of 50o with the gem, the refracted angle is observed to be 20.6o.

Gem 3: When a ray of light makes an angle of incidence of 31o with the gem, the refracted angle is observed to be 19.8o.

Gem 4: The speed of light in the gem is 2.04x108 m/s.

Gem 5: The speed of light in the gem is 1.24x108 m/s.