QUICKEST DESCENT
Four identical balls on four different tracks are released simultaneously. Which of the tracks—bent, straight, circular or cycloidal—will deliver its ball to the end of the slope the fastest?

Answer
The shortest path—the straight line—is not the quickest. Instead, the ball that rolls on the cycloidal track will be the first to arrive. Amazingly, the cycloidal path is the longest of the four. The cycloid is called the curve of quickest descent. The ball descending the cycloid reaches a high speed early in its descent and uses that speed to race ahead of the others.