16. *PQRS* is a quadrilateral inscribed in a circle of which *PR* is a diameter. The lengths of *PQ*, *QR* and *RS* are 60, 25 and 52 respectively. What is the length of *SP*?

A $21\frac{2}{3}$　　　　B $28\frac{11}{13}$　　　　C 33　　　　D 36　　　　E 39

16. **E** As *PR* is a diameter, $\angle PQR = \angle PSR = 90°$ (angles in a semicircle are 90°).
Since $PQ = 12 \times 5$ and $QR = 5 \times 5$, triangle *PQR* is an enlarged 5, 12, 13 triangle and so $PR = 13 \times 5 = 65$.
Since $PR = 5 \times 13$ and $SR = 4 \times 13$, triangle *PRS* is an enlarged 3, 4, 5 triangle and so $SP = 3 \times 13 = 39$.