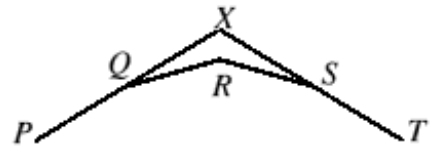




14. P, Q, R, S, T are vertices of a regular polygon. The sides PQ and TS are produced to meet at X , as shown in the diagram, and $\angle QXS = 140^\circ$. How many sides does the polygon have?



- A 9 B 18 C 24 D 27 E 40

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14. **D** Let the external angle of the regular polygon be x° .
Hence $\angle XQR = \angle XSR = x^\circ$ and reflex angle
 $\angle QRS = (180 + x)^\circ$.

As the sum of the angles in the quadrilateral $QRSX$ is 360° then $140 + x + x + 180 + x = 360$.

Hence $3x = 40$ and the polygon has $\frac{360}{40 \div 3} = 27$ sides.

