

Let $ABCD$ be a regular tetrahedron with all sides of length 4. A plane intersects the tetrahedron, intersecting sides \overline{AC} , \overline{AD} , \overline{BC} , and \overline{BD} in points W , X , Y , and Z , respectively. Given that $AW = 2$, $AX = 3$, and $BZ = 1$, find BY .