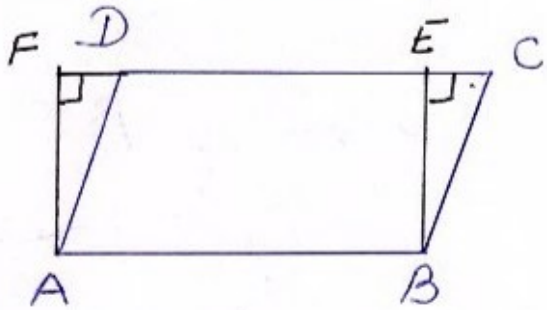
9 – ncert 9.4 Q1



given – In figure □ABCD is a llgm
□ABEF is a rectangle

to prove – Perimeter ABCD > Perimeter ABED

proof – AB = DC [opposite sides of a llgm]
But AB = FE

∴ CD = EF ... (I)
AB = AB ... (II)
AD > AF .. (III) [In a rt △ hypotenuse is longest side]
BC > BE .. (IV)

(I) + (II) + (III) + (IV)

AB + BC + CD + AD > AB + BE + AF + EF

⇒ Perimeter of llgm ABCD > Perimeter of rect. ABEF