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(1) $DE = EB$
 $DM = MB \rightarrow$ \parallel EM
 $BI \perp NP$

$EM \perp BD$

(2) $\triangle AEM \cong \triangle CEM$

$\angle DAE + \angle EMD = 90^\circ + 90^\circ = 180^\circ$

(BE is a line) $\angle EMA = \angle ADE$

(1) $\angle EMA = \angle CME$

(3)

$EB = x$ (NO)

$\triangle EMB$: $MB = \frac{1}{2}DB = \frac{1}{2}\sqrt{a^2+b^2}$

$EM^2 + MB^2 = EB^2$

$\triangle AED$:

$AD^2 + AE^2 = DE^2$

$b^2 + (a-x)^2 = x^2$

$b^2 + a^2 = 2ax \rightarrow x = \frac{b^2+a^2}{2a}$

$EM^2 + \frac{1}{4}(a^2+b^2) = \left[\frac{b^2+a^2}{2a}\right]^2$

$EM^2 = \frac{(b^2+a^2)^2 - a^2(a^2+b^2)}{4a^2} = \frac{(b^2+a^2)b^2}{4a^2}$

$EM = \frac{b}{2a} \sqrt{b^2+a^2}$

(S.S.S) $\triangle AEM \cong \triangle CFM$

$EF = 2EM = \frac{b\sqrt{b^2+a^2}}{a}$