2.9.18

(6) (א - סעיף

(IV) $270^\circ < \alpha < 360^\circ$

$\cos\alpha = \frac{3}{5}$

$\sin\alpha = -\frac{4}{5}$

$\cot\alpha = \frac{\cos\alpha}{\sin\alpha} = -\frac{3}{4}$

א. $1 + tg^2\alpha = \frac{1}{\cos^2\alpha}$

$tg^2\alpha = \frac{1}{\frac{9}{25}} - 1 = \frac{16}{9}$

$\cot\alpha = -\frac{3}{4} \Leftarrow tg\alpha = -\frac{4}{3}$

סעיף (ב

$0 \le x \le 360^\circ$

$2\sin 4x = -\sqrt{3}$

$\sin 4x = -\frac{\sqrt{3}}{2}$

א. $4x = -60^\circ + 360k$ — $240 + 360k$

$x = -15^\circ + 90k$ — $60 + 90k$

$\Rightarrow 75^\circ, 165^\circ$ | $255^\circ, 345^\circ$ — טעות

$60, 150$ | $240, 330$

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(7) (א סעיף

שווה צלעות - $\triangle ABC$

$\triangle ABF \cong \triangle BCE$ (צ.ז.צ)

$\Downarrow$

$AF = BE$

$\triangle ABF \cong CAD$ (צ.ז.צ)

$AF = CD$

$AF = BE = DC$

סעיף (ב

במשולשים המתקבלים יש צלע שווה וזוויות בהתאמה

$\angle DAK = \angle EBC = \angle ECL$

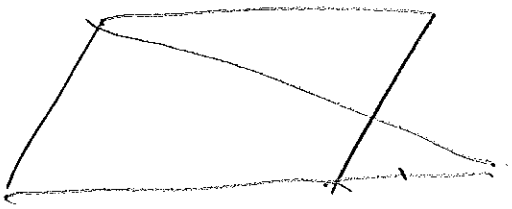
$\angle ADK = \angle BFM = \angle CEL$

$\triangle BFM \cong \triangle CEL \cong \triangle ADK$ (ז.צ.ז)

$\Downarrow$

$FM = EL = DK$

(8)



(ג) 5 נק'

$\triangle CPQ \sim \triangle BPA$ (.ז.ז)

⇓

$\frac{CP}{BP} = \frac{CQ}{AB}$ — $AB = CD$

$CP \cdot CD = CQ \cdot BP$

(ב) 5 נק'

$\triangle ABP \sim \triangle QDA$ (ז.ז)

$\frac{BP}{DA} = \frac{AB}{DQ}$ DC

$AB = DC$

$DA = BC$

$BP \cdot DQ = DC \cdot BC$

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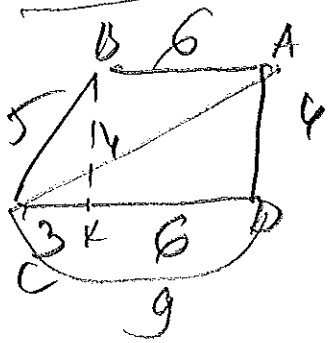
(9)



$BK \perp DC$

$BK = AD = 4$

$CK = 3$

$KD = BA = 6$

$\triangle ACD$

$AC^2 = 4^2 + 9^2 = 97$

$AC = \sqrt{97}$