Pravoúhlá axonometrie - řezy hranatých těles

KG - L

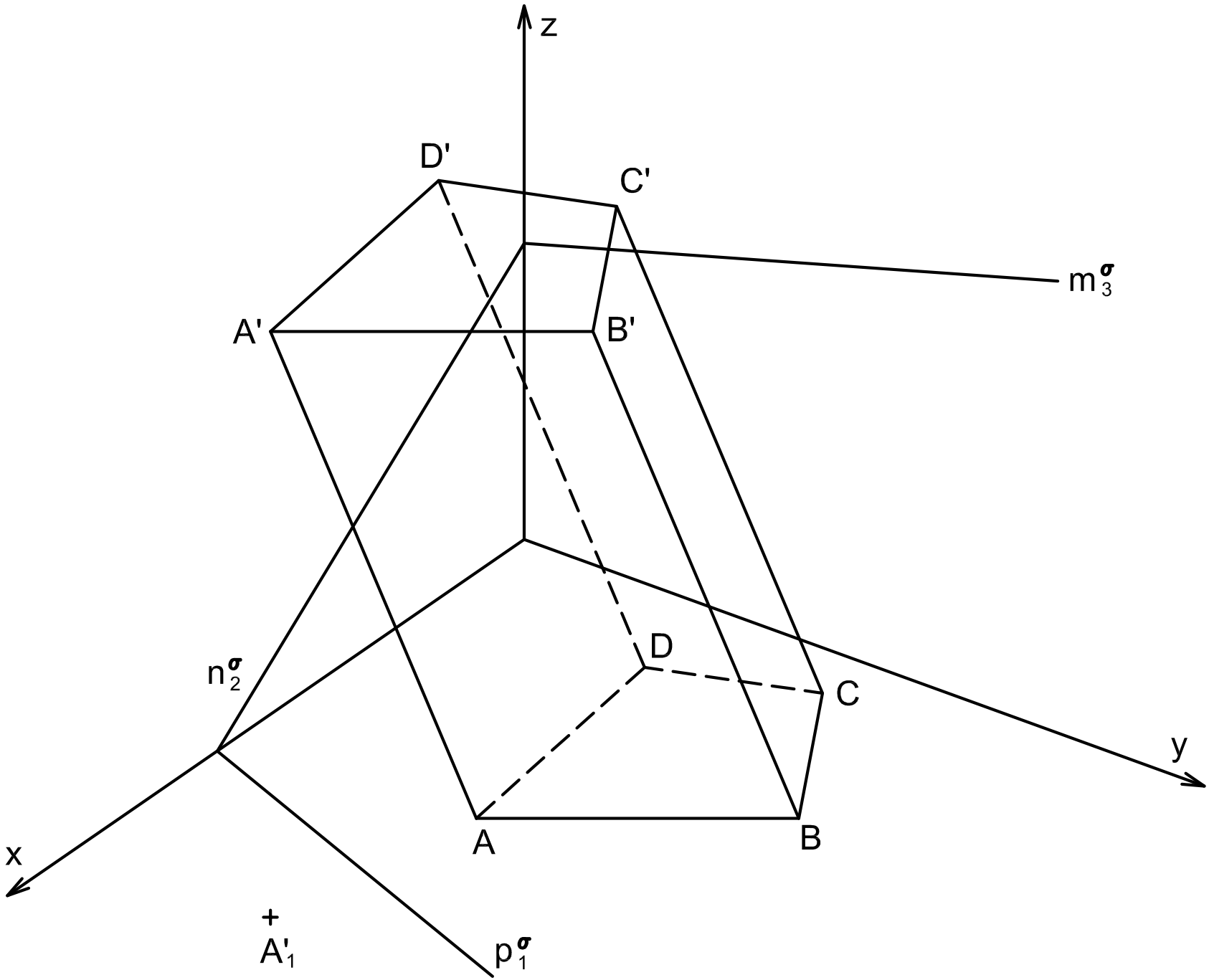
MENDELU

Příklad (Řez šikmého hranolu)

Sestrojte řez šikmého čtyřbokého hranolu $ABCDA'B'C'D'$ rovinou σ. Hranol má podstavu $ABCD$ v půdorysně, horní podstava $A'B'C'D'$ je rovnoběžná s půdorysnou. Rovina σ je dána stopami.

Řešení

1. První bod řezu sestrojíme jako průsečík jedné boční hrany (AA') s rovinou σ, řešíme metodou krycí přímky.
2. Sestrojíme řez pomocí afinity mezi rovinou podstavy a rovinou řezu. Osou afinity je půdorysná stopa roviny σ, pár odpovídajících si bodů je $A, \bar{A}$.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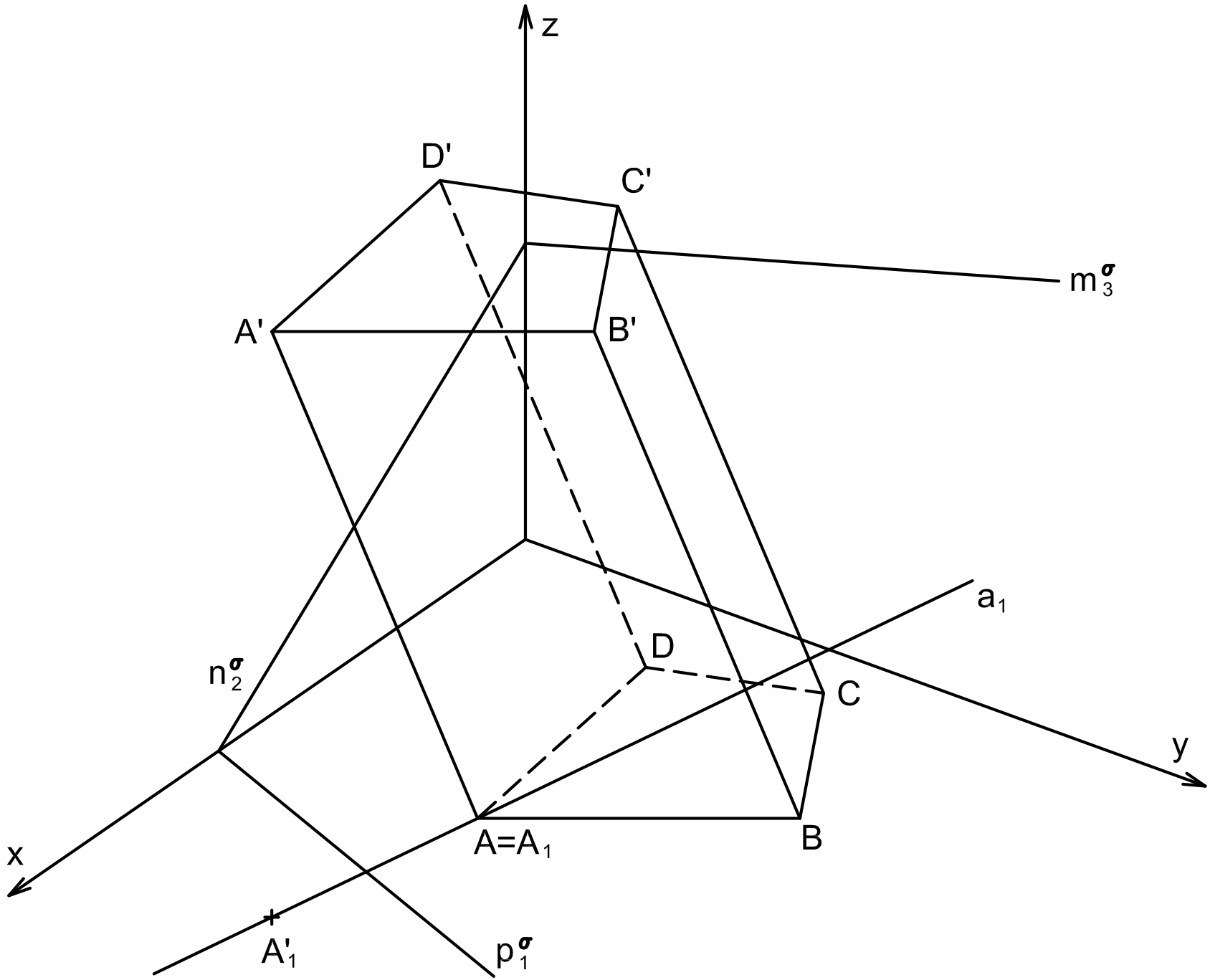
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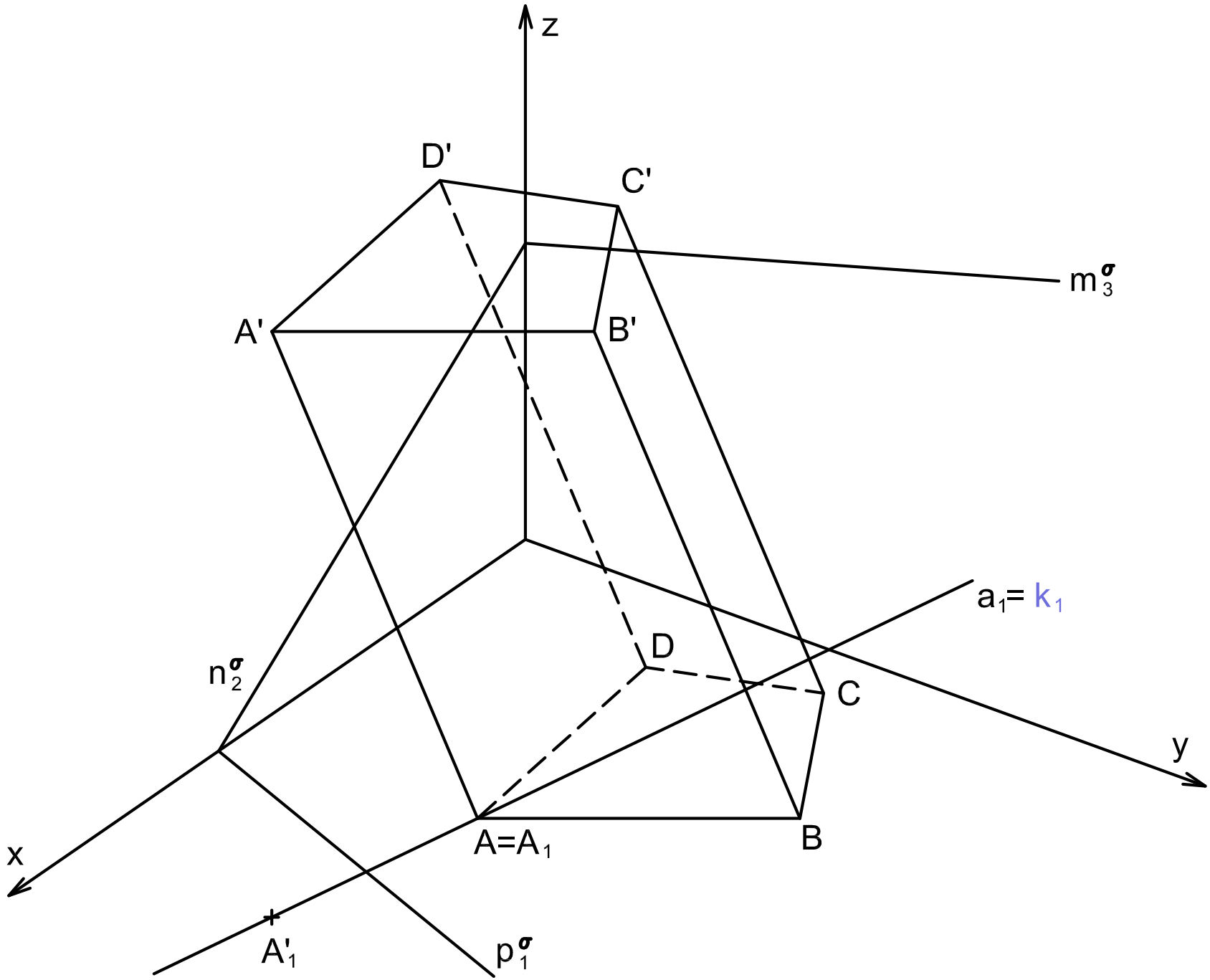
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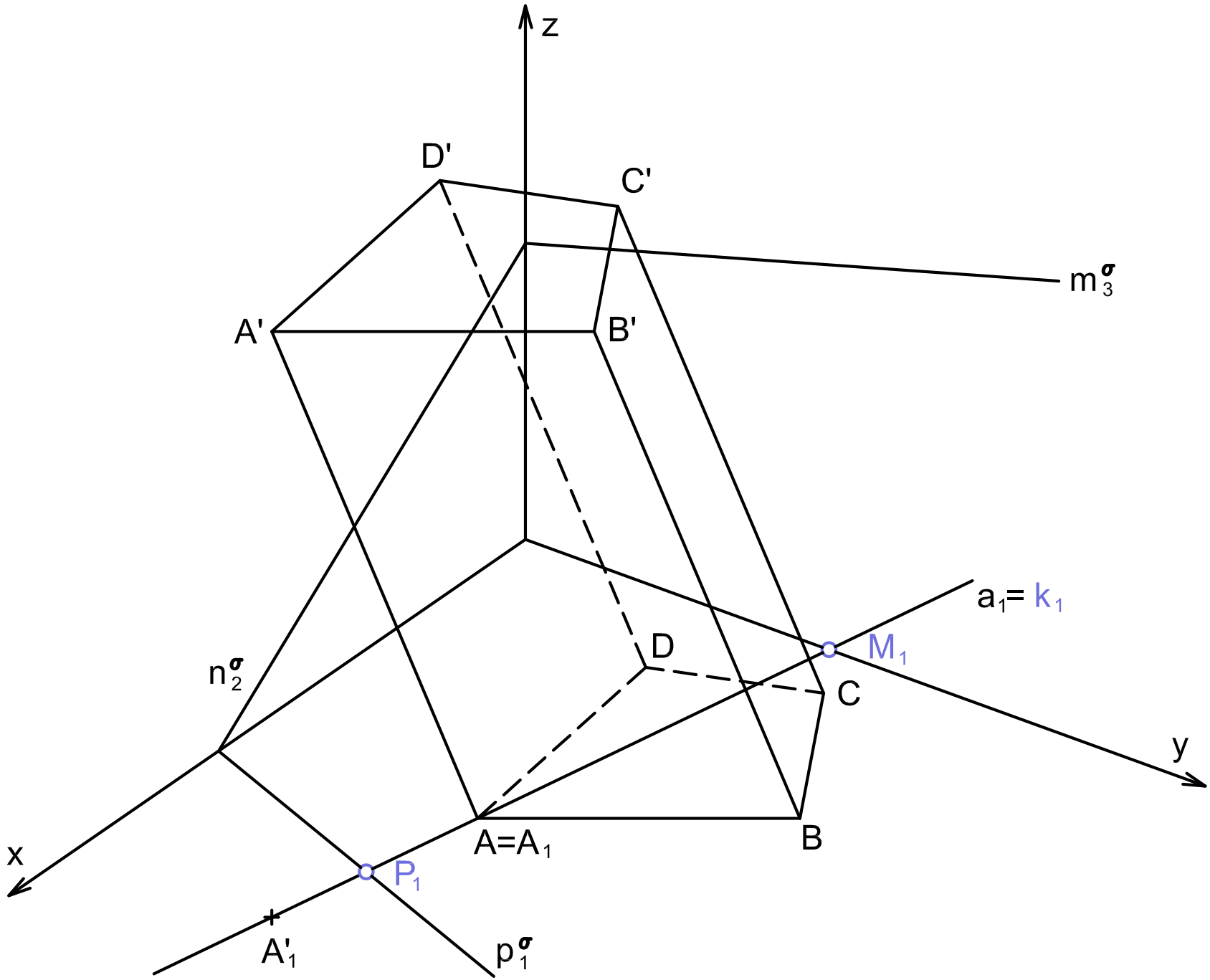
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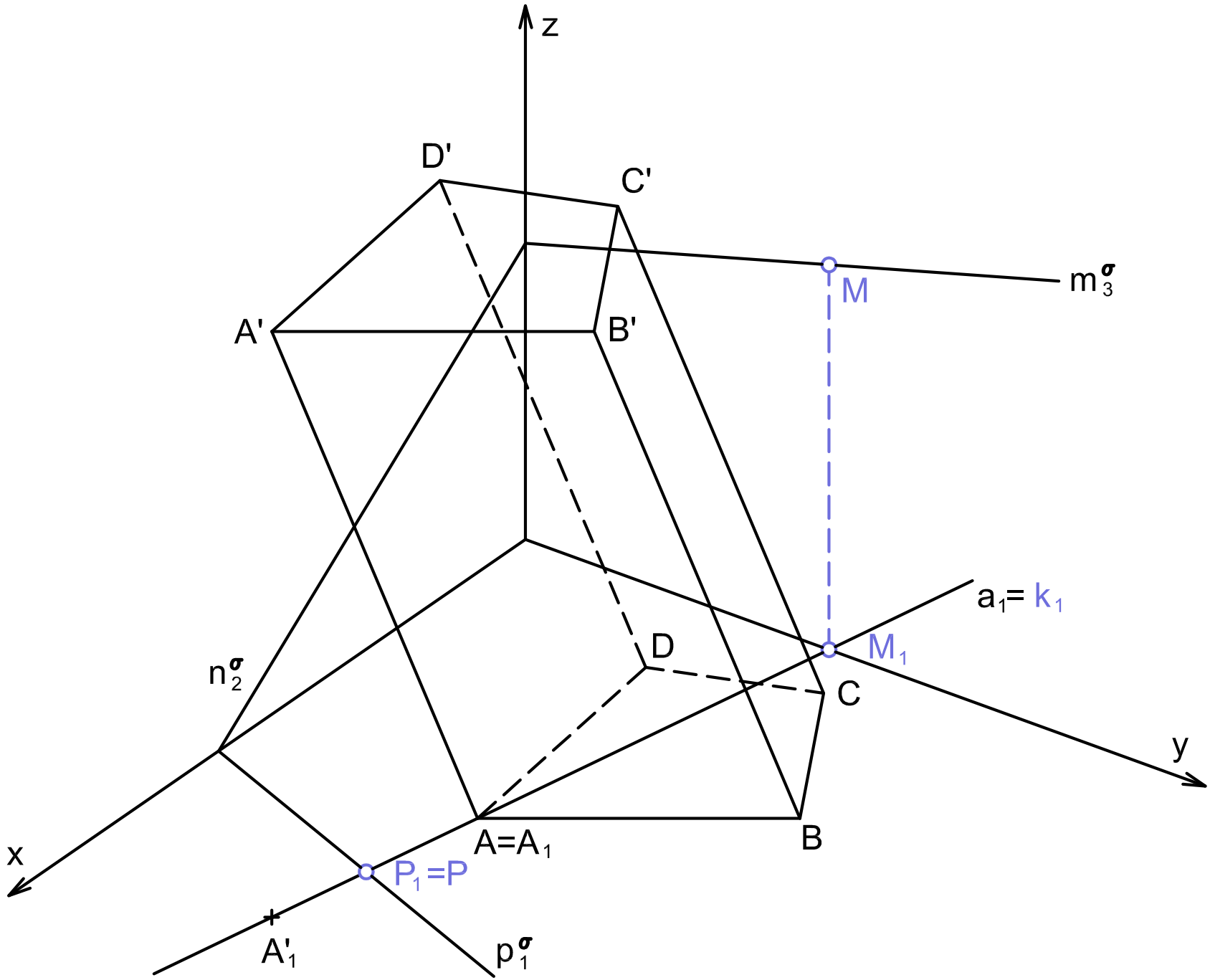
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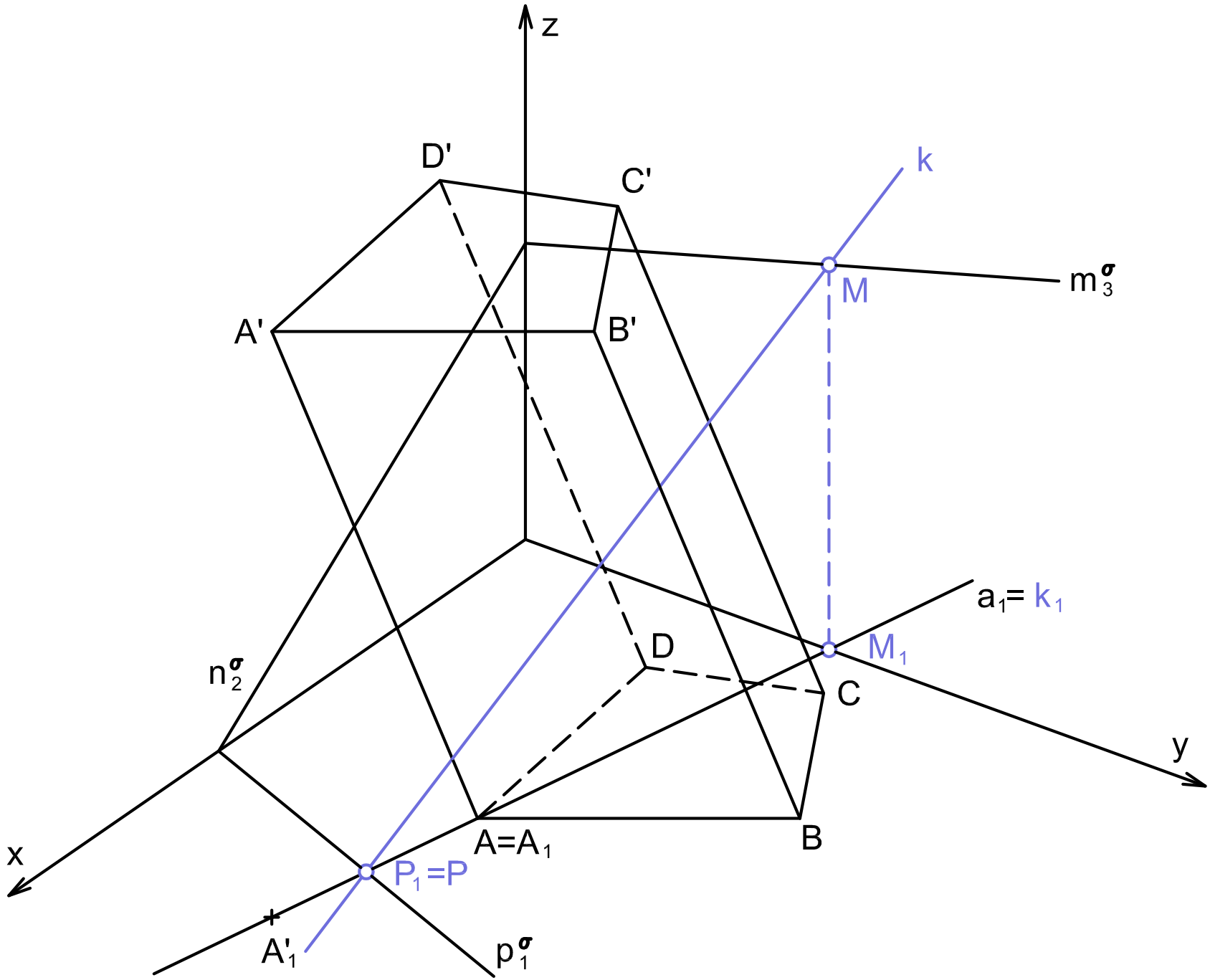
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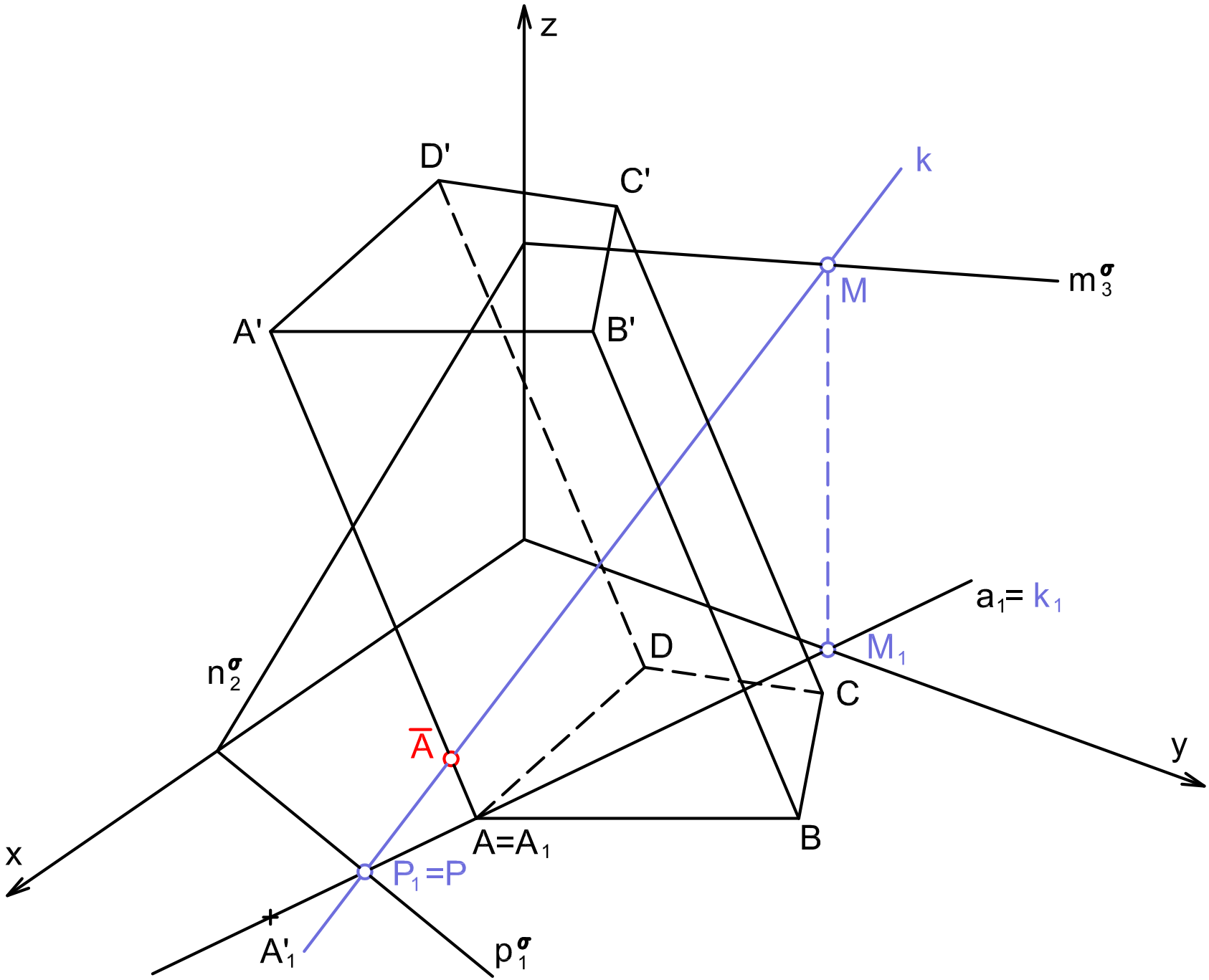
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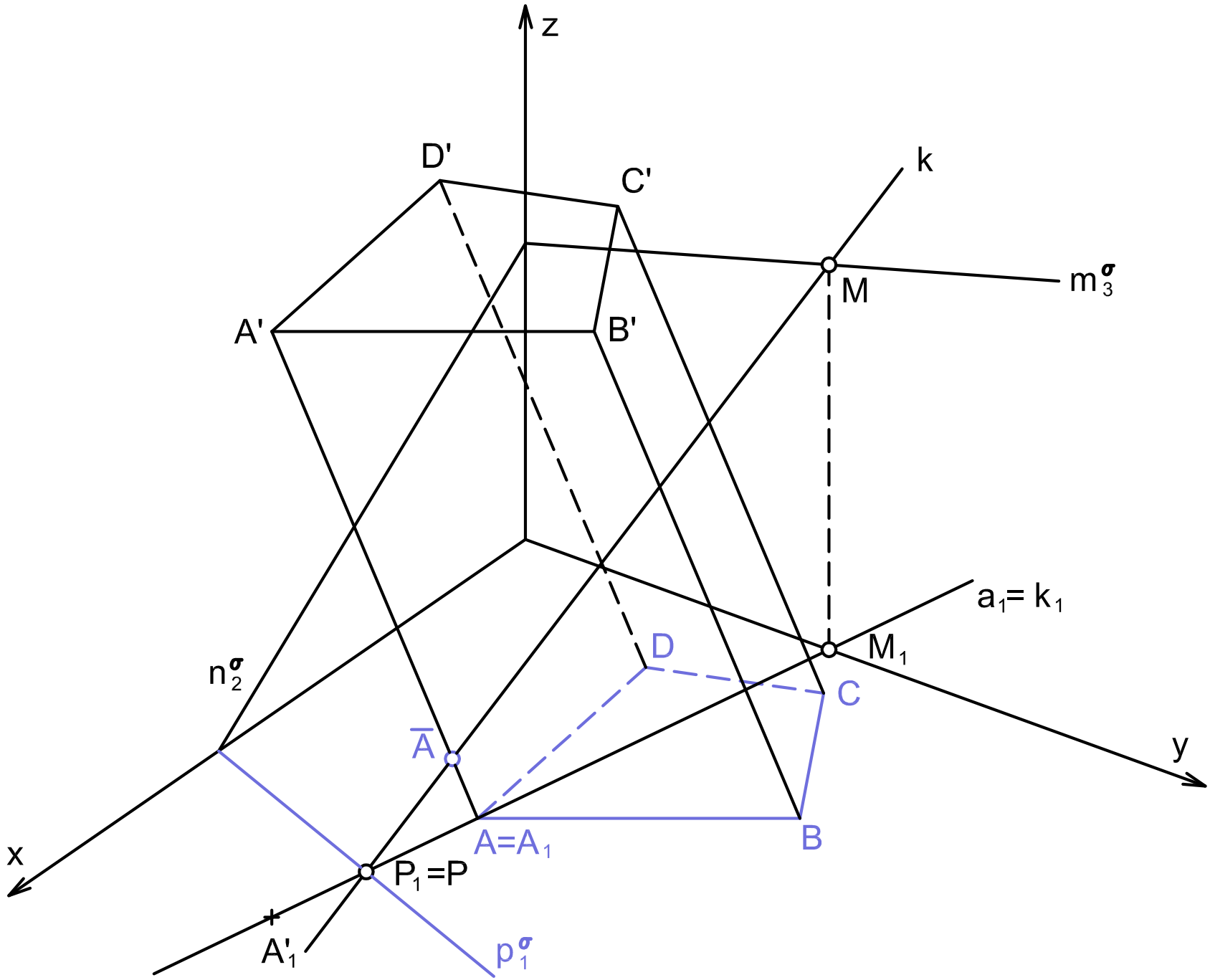
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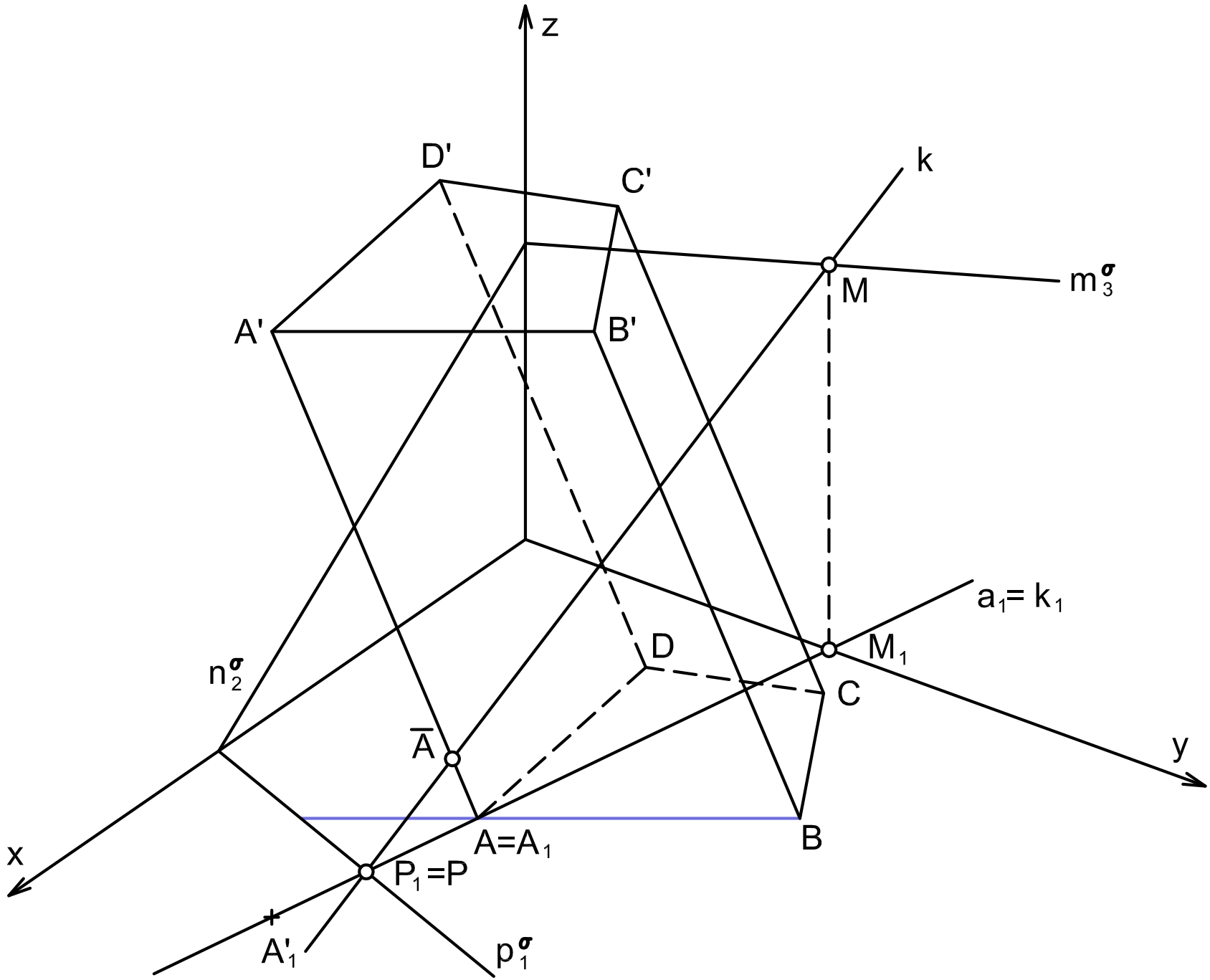
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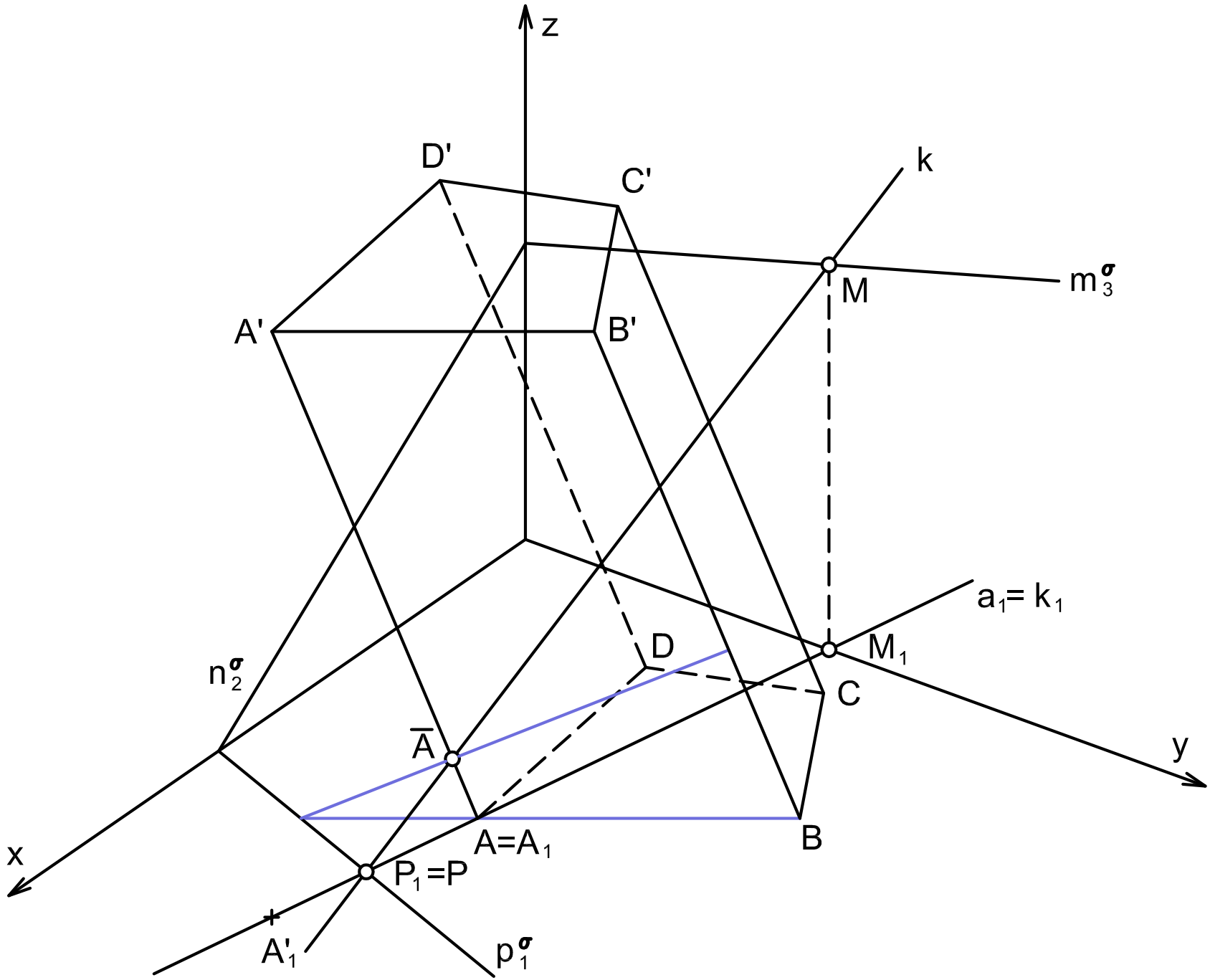
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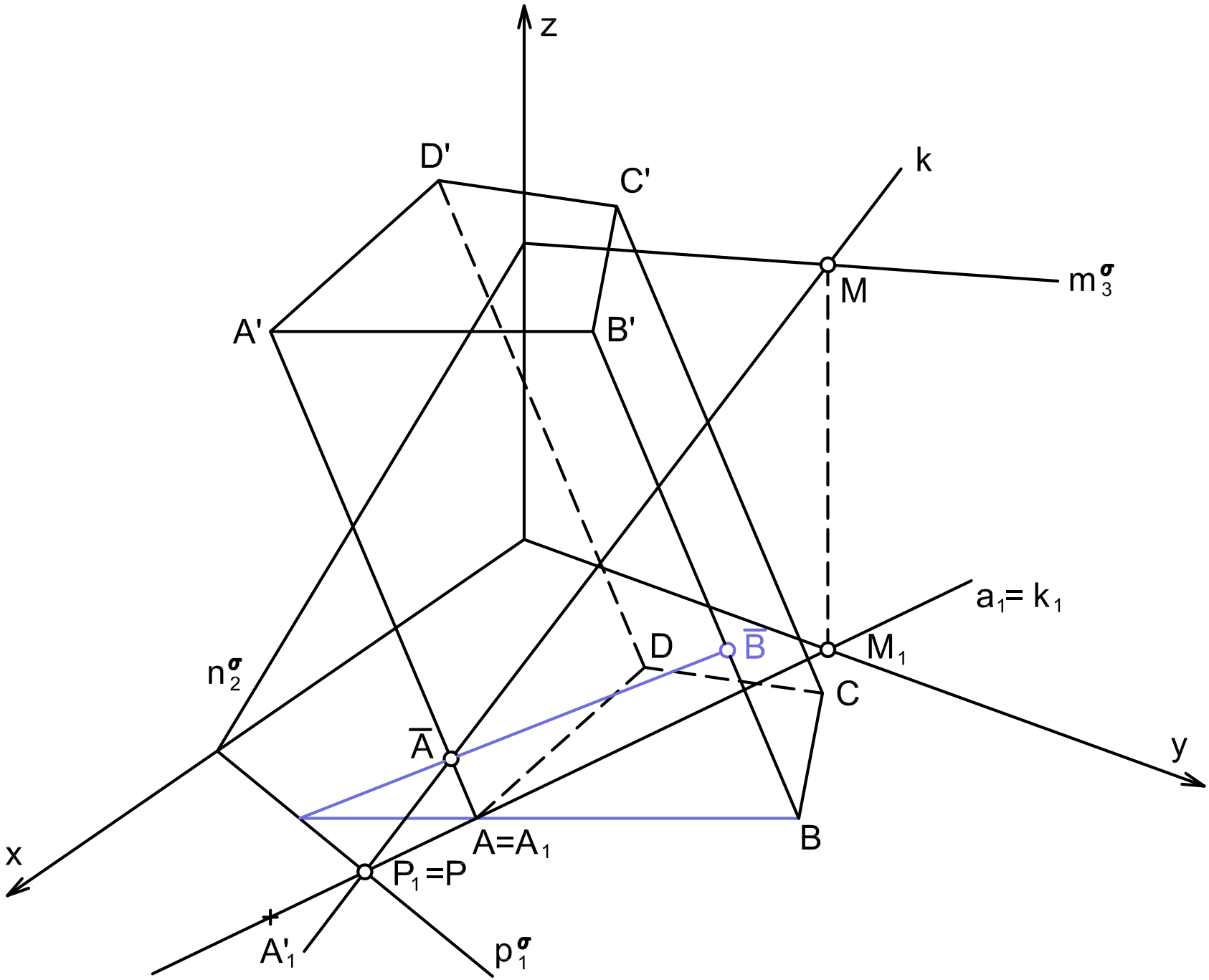
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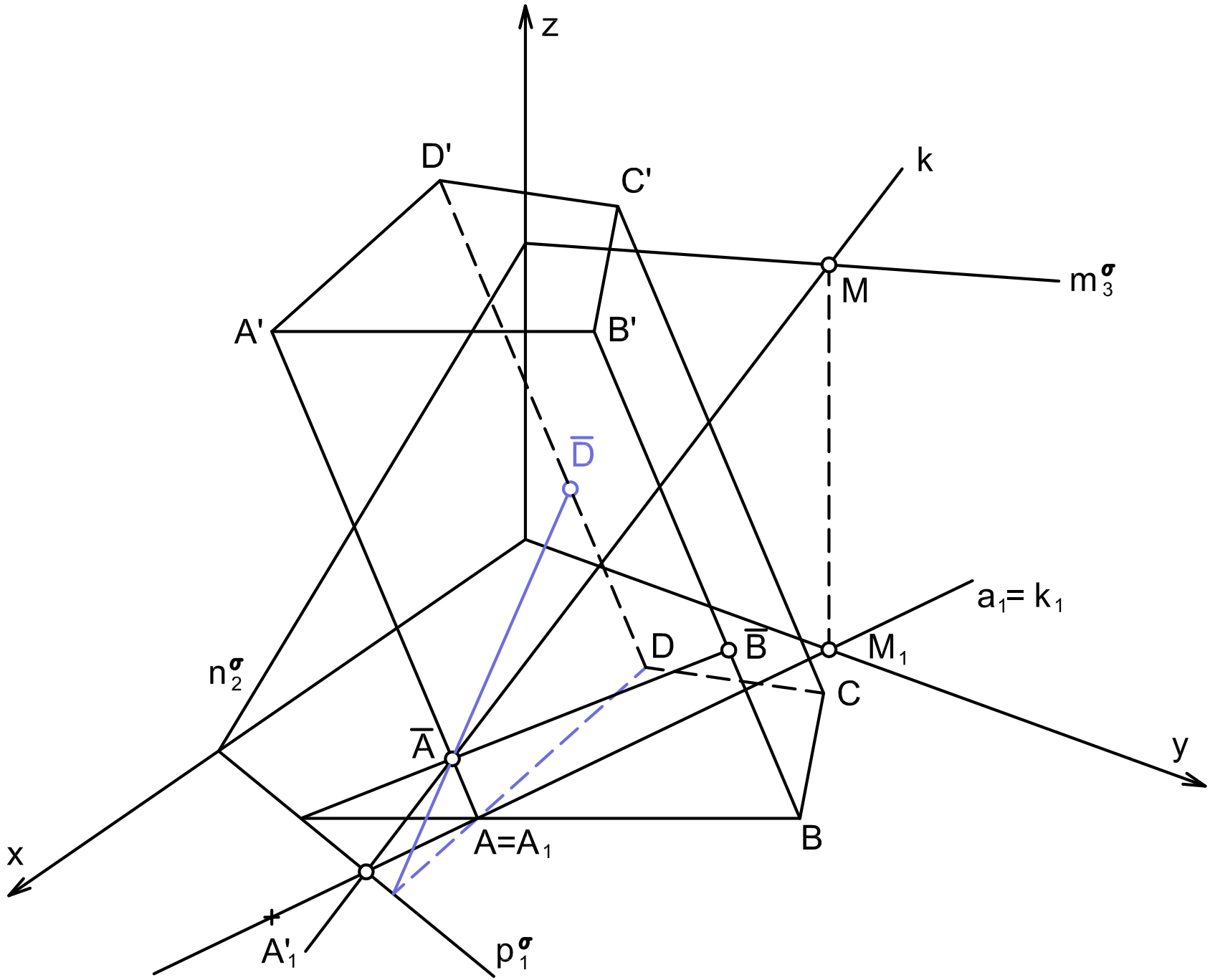
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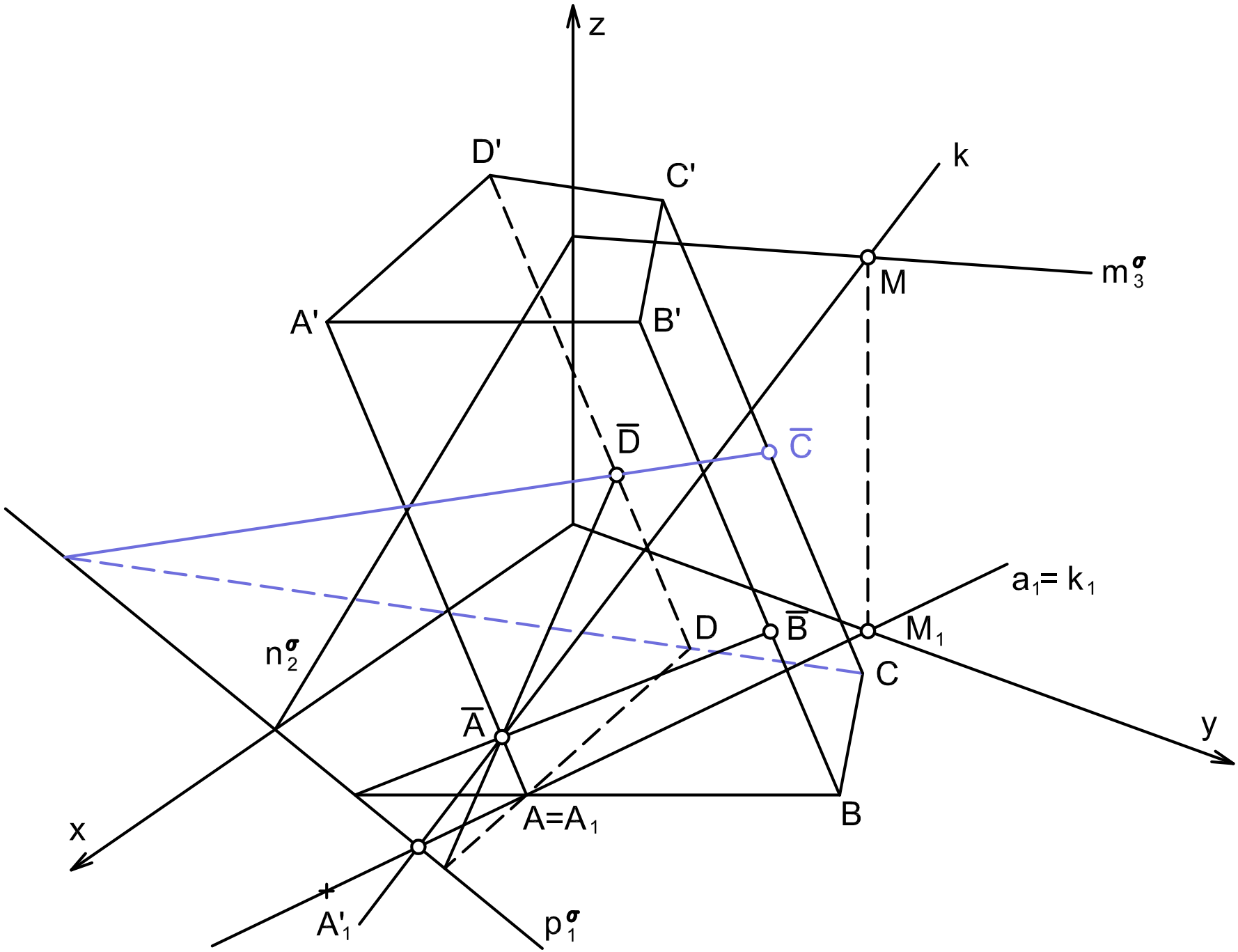
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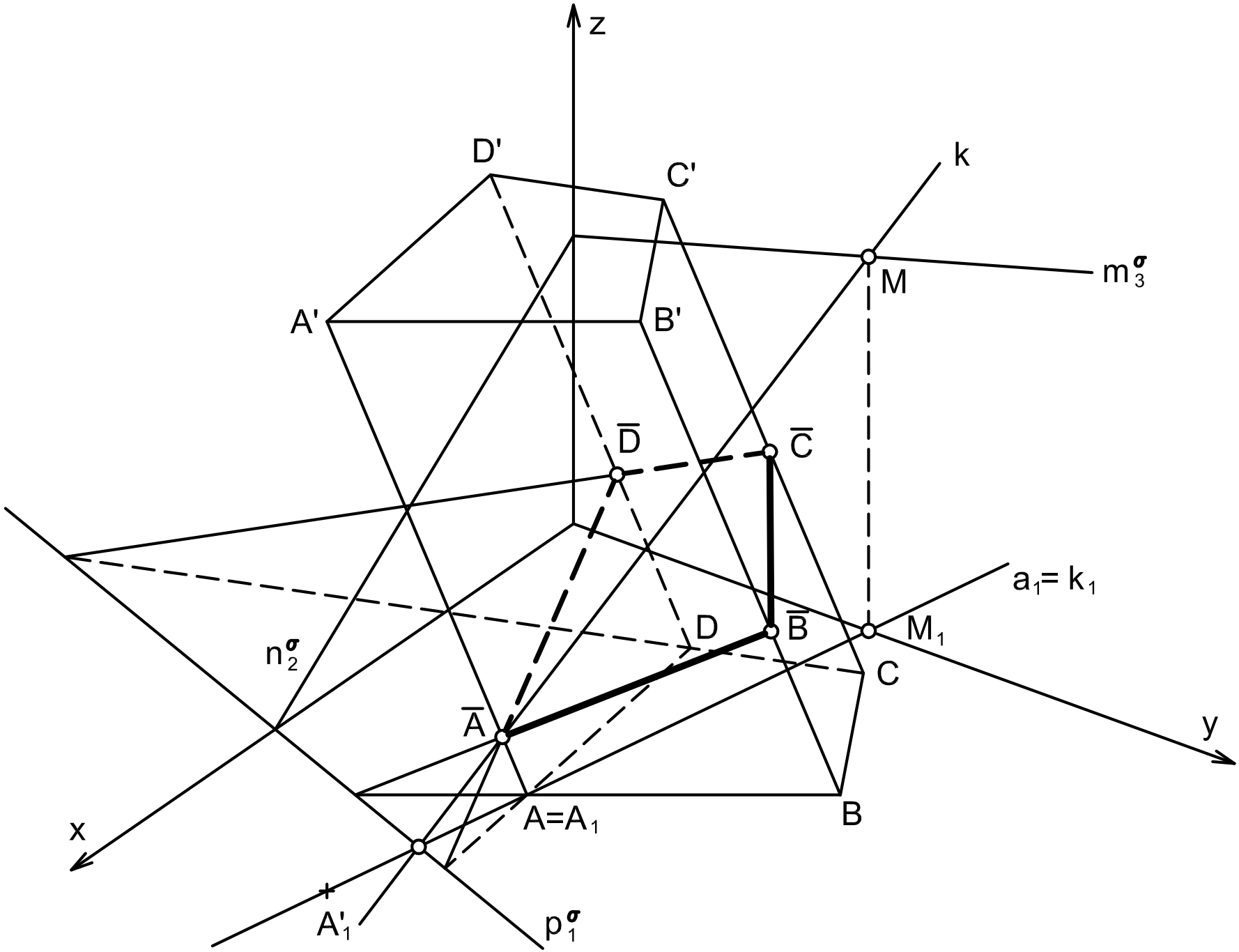
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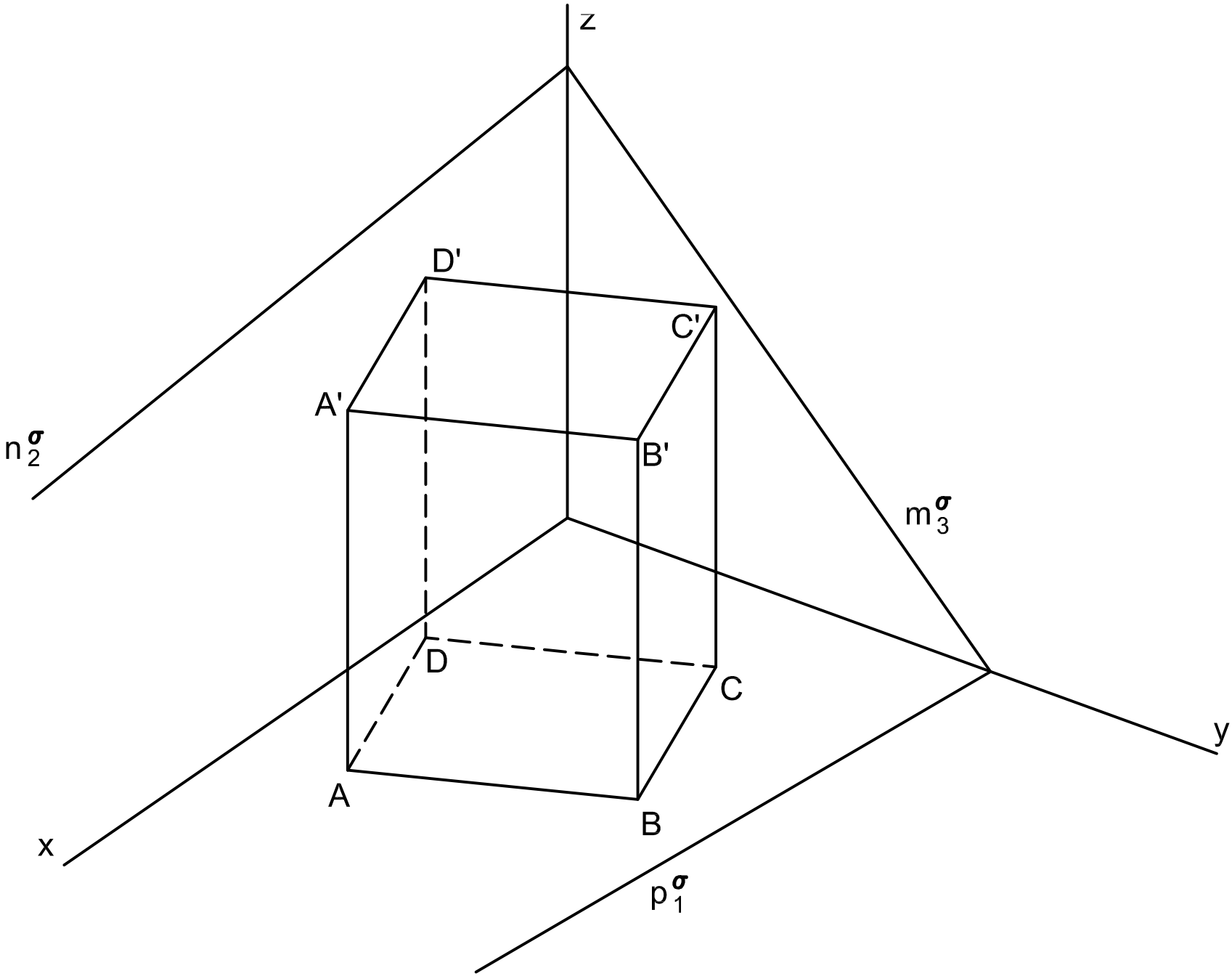
Příklad (Řez kolmého hranolu)

Je dán kolmý čtyřboký hranol s podstavou $ABCD$ v půdorysně a horní podstavou $A'B'C'D'$ rovnoběžnou s půdorysnou. Sestrojte těleso, které vznikne odřiznutím horní části hranolu rovinou σ.

Řešení

1. První část řezu najdeme ve stěně $ABA'B'$ jako průsečnici dvou rovin $\alpha = ABA'$ a σ. Získáme tak body řezu $\bar{A}, \bar{B}$.
2. Sestrojíme řez pomocí afinity mezi rovinou podstavy a rovinou řezu. Osou afinity je půdorysná stopa roviny σ, pár odpovídajících si bodů je $A, \bar{A}$.
3. Vyznačíme těleso, které vznikne odříznutím horní části hranolu.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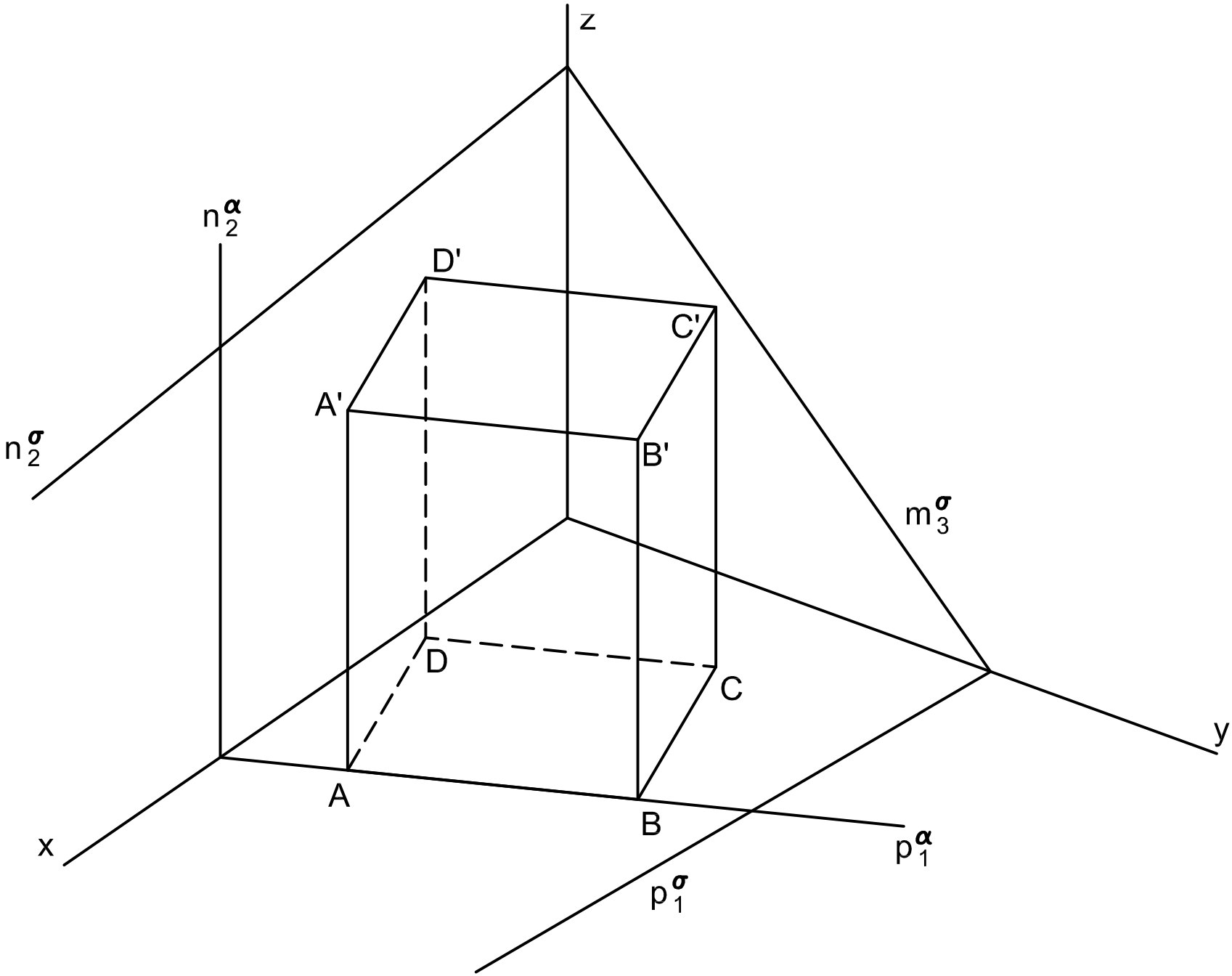
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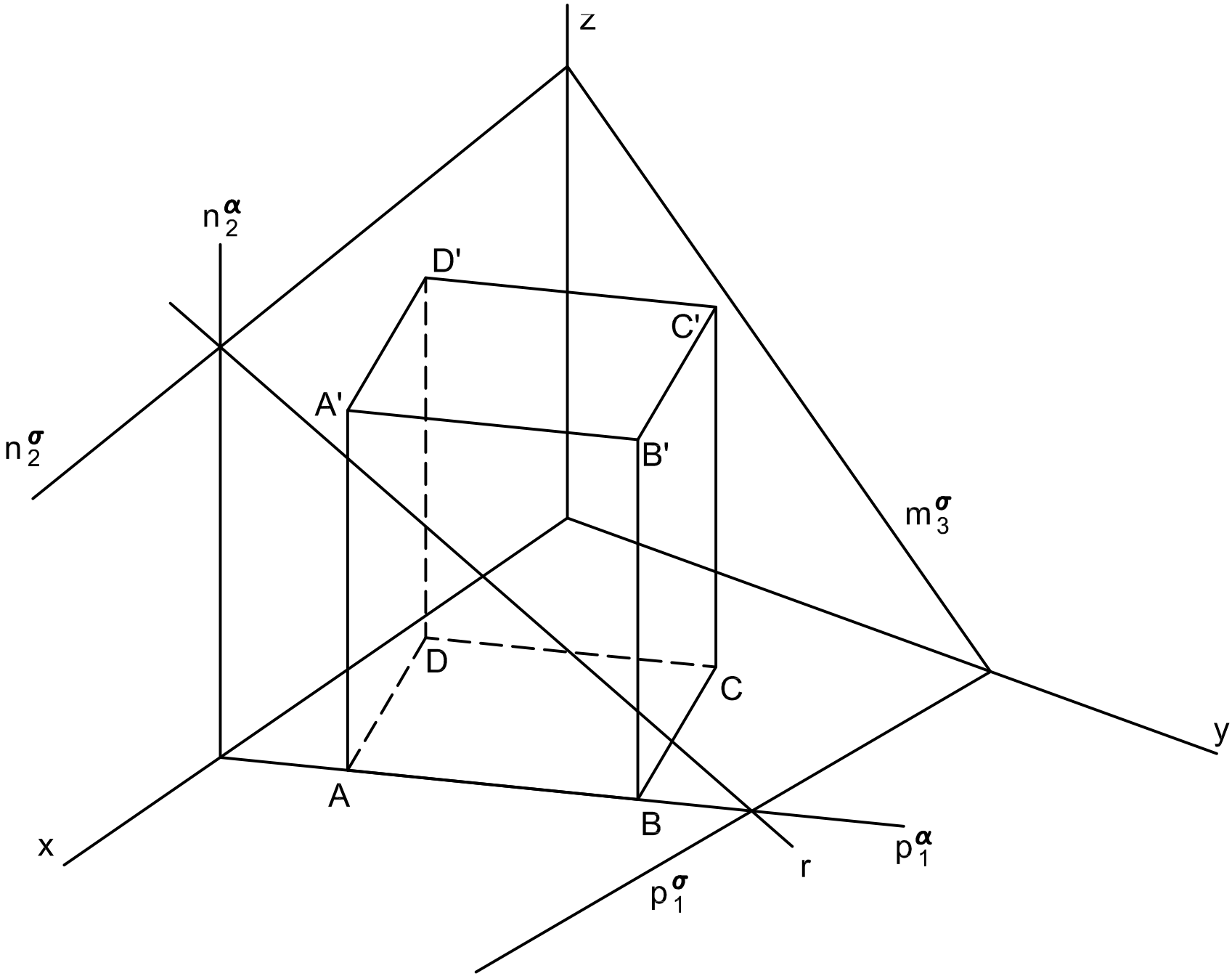
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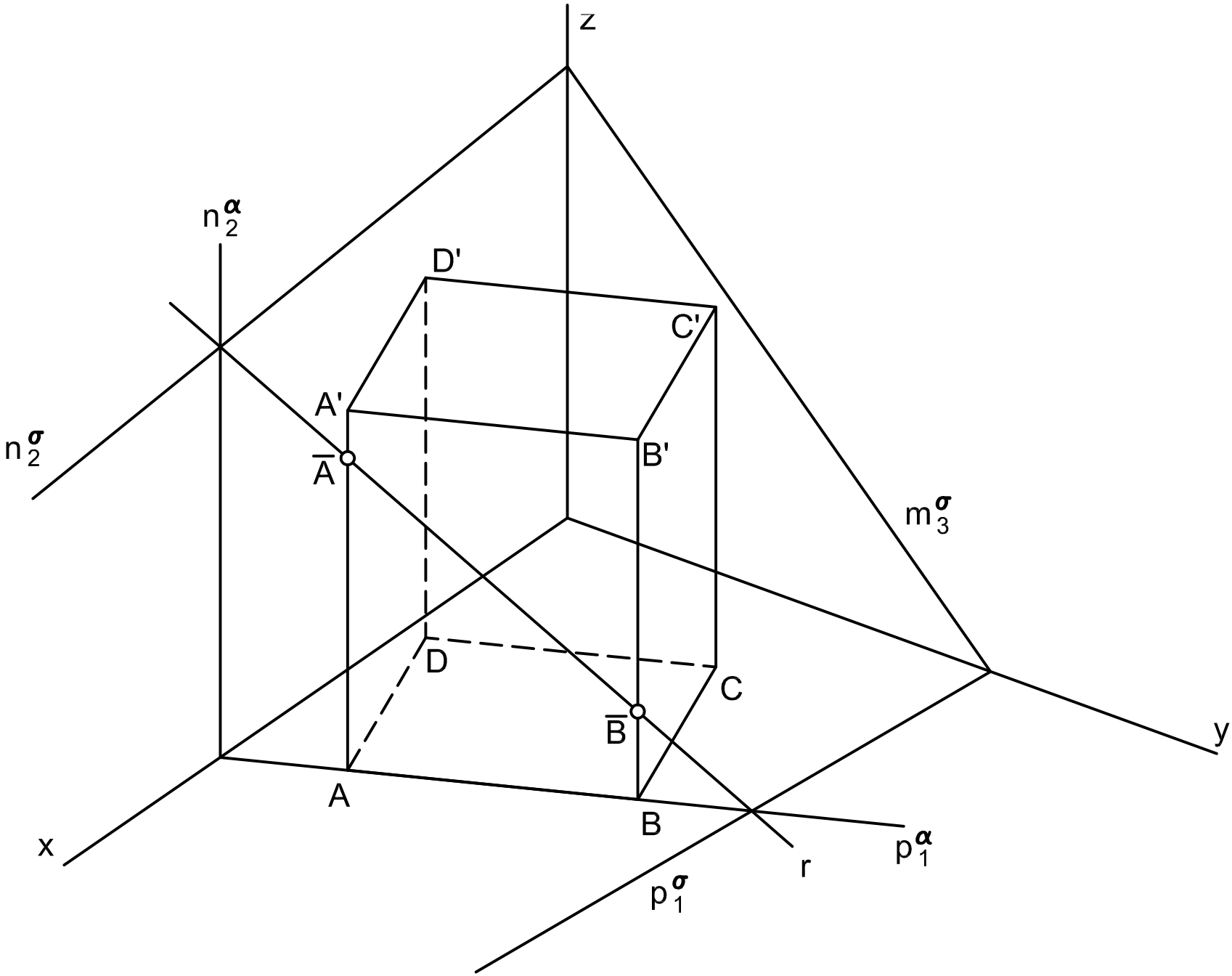
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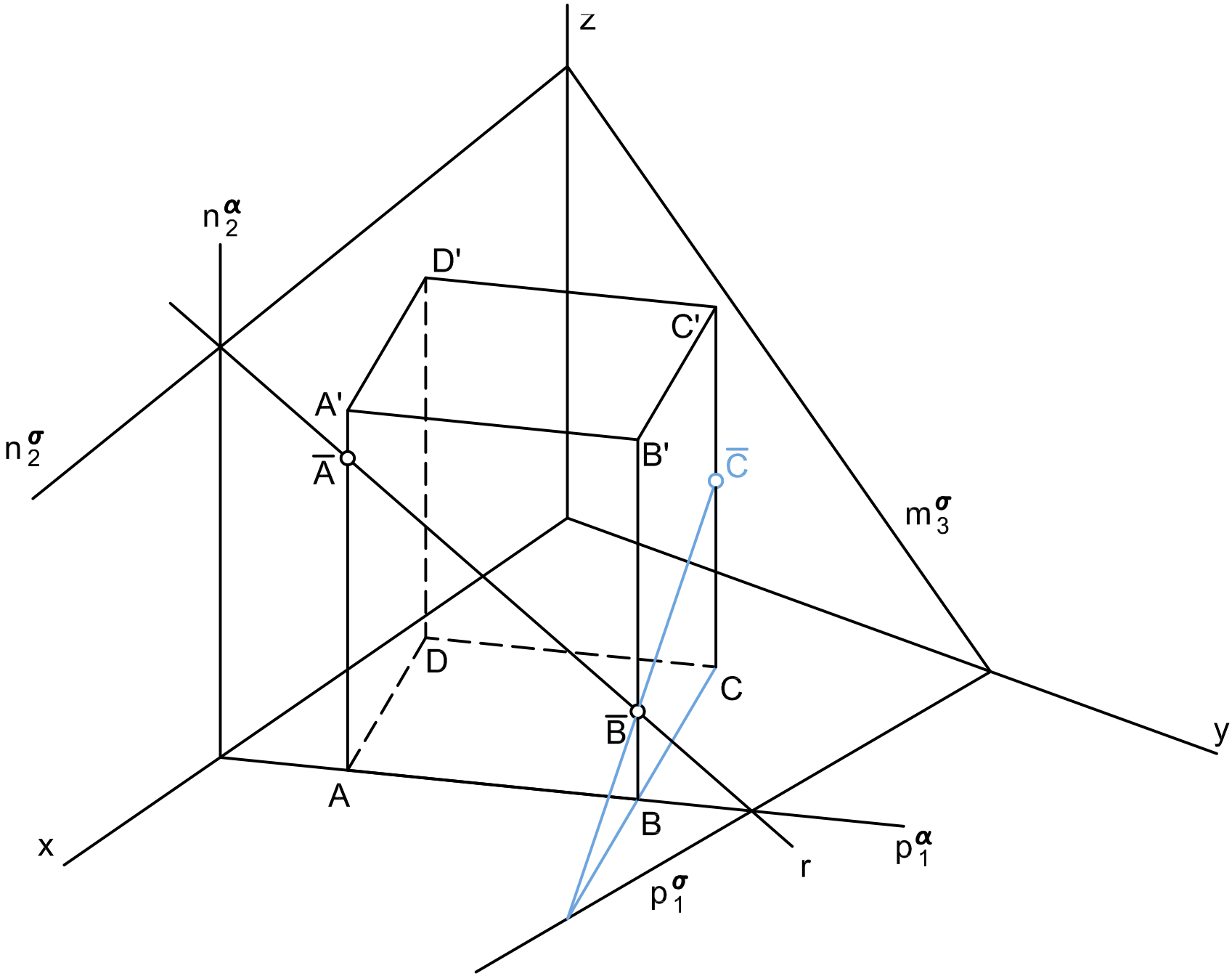
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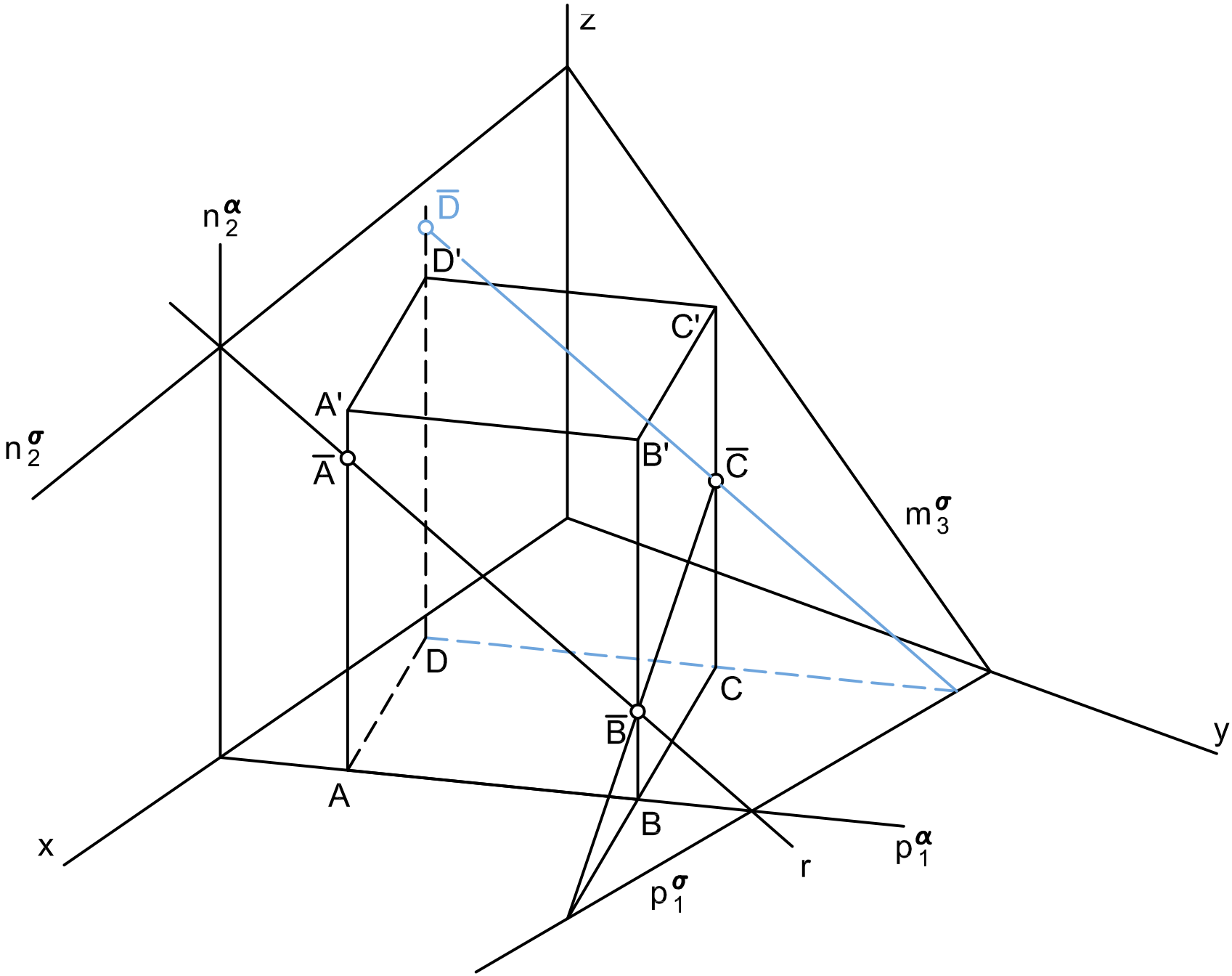
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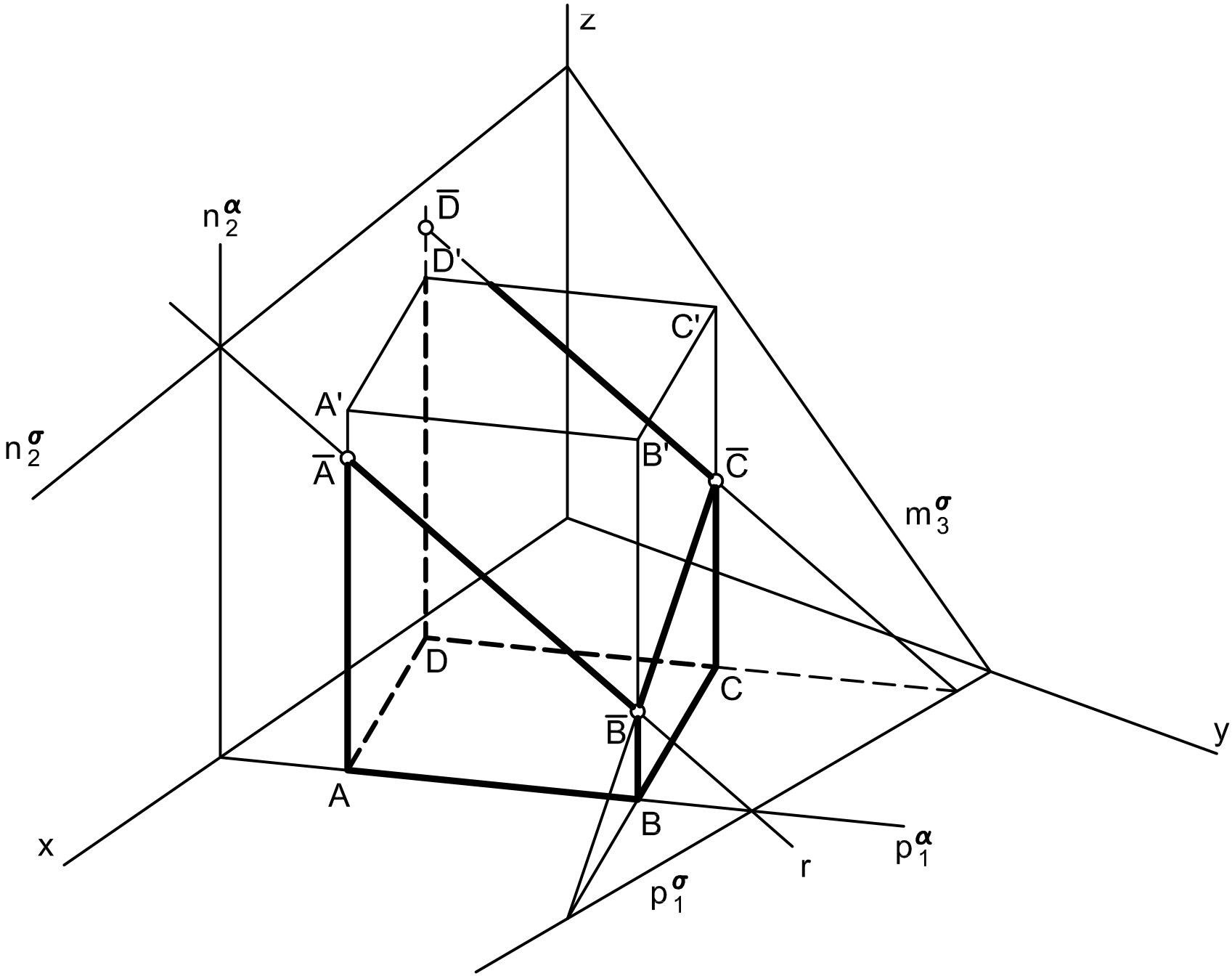
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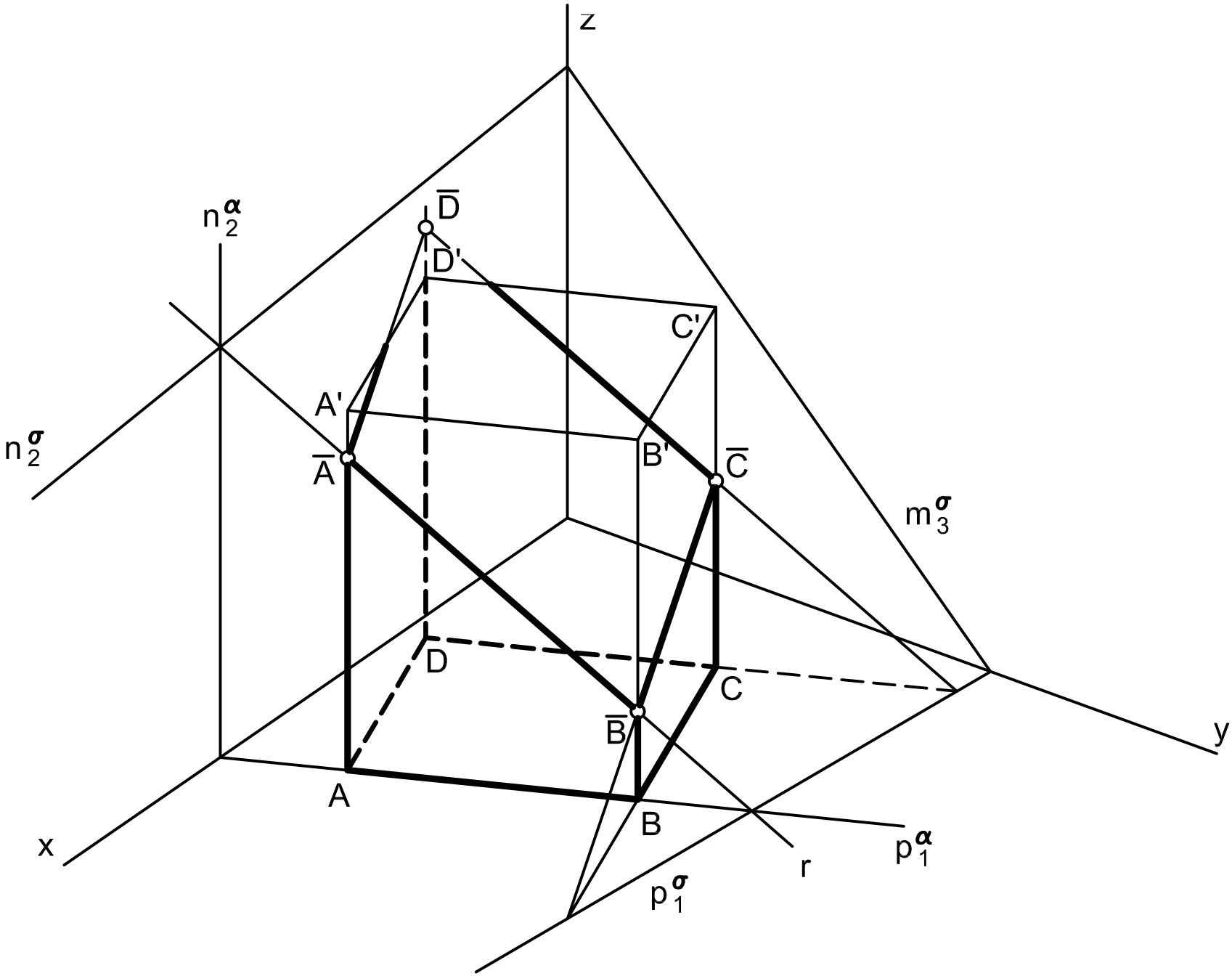
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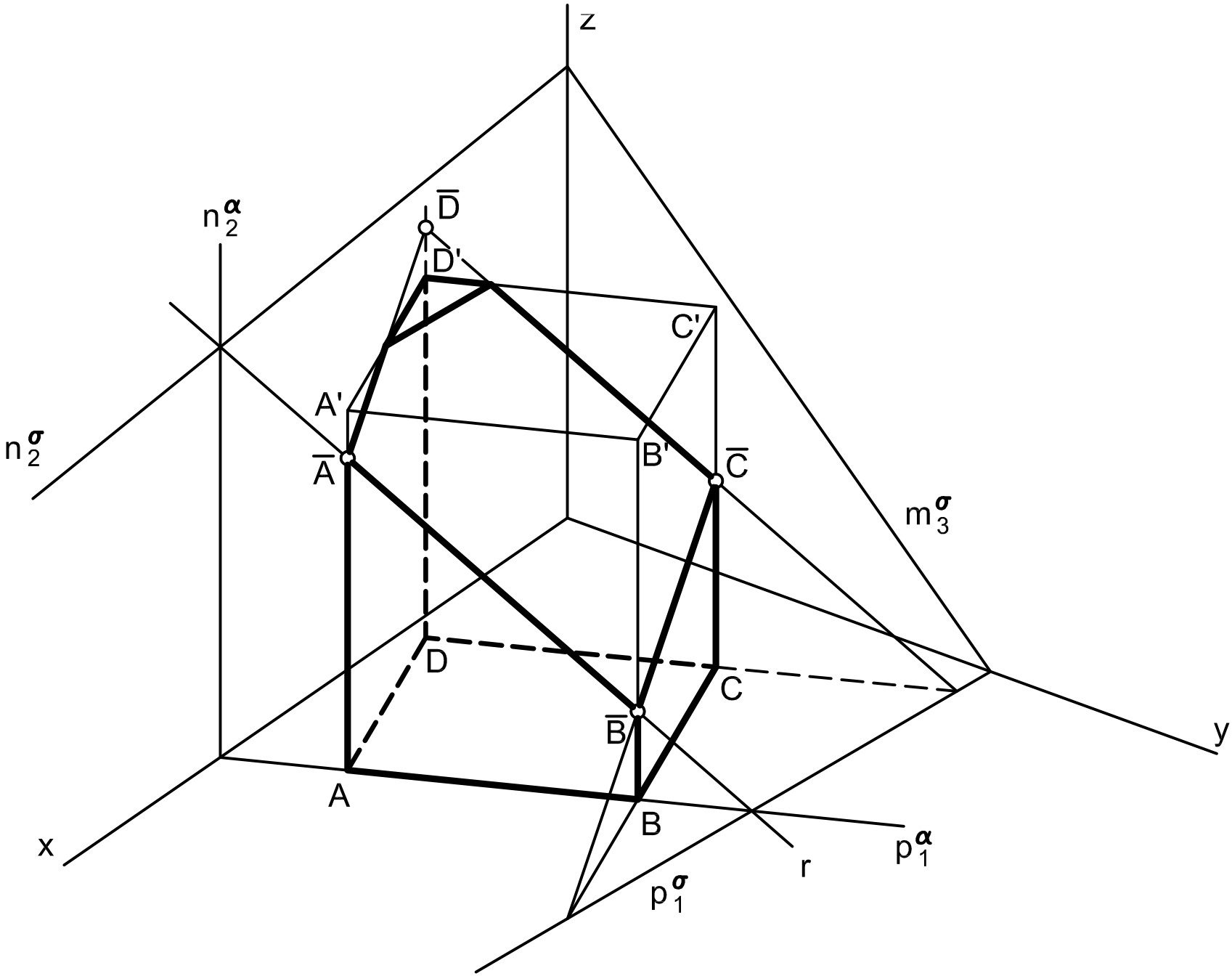
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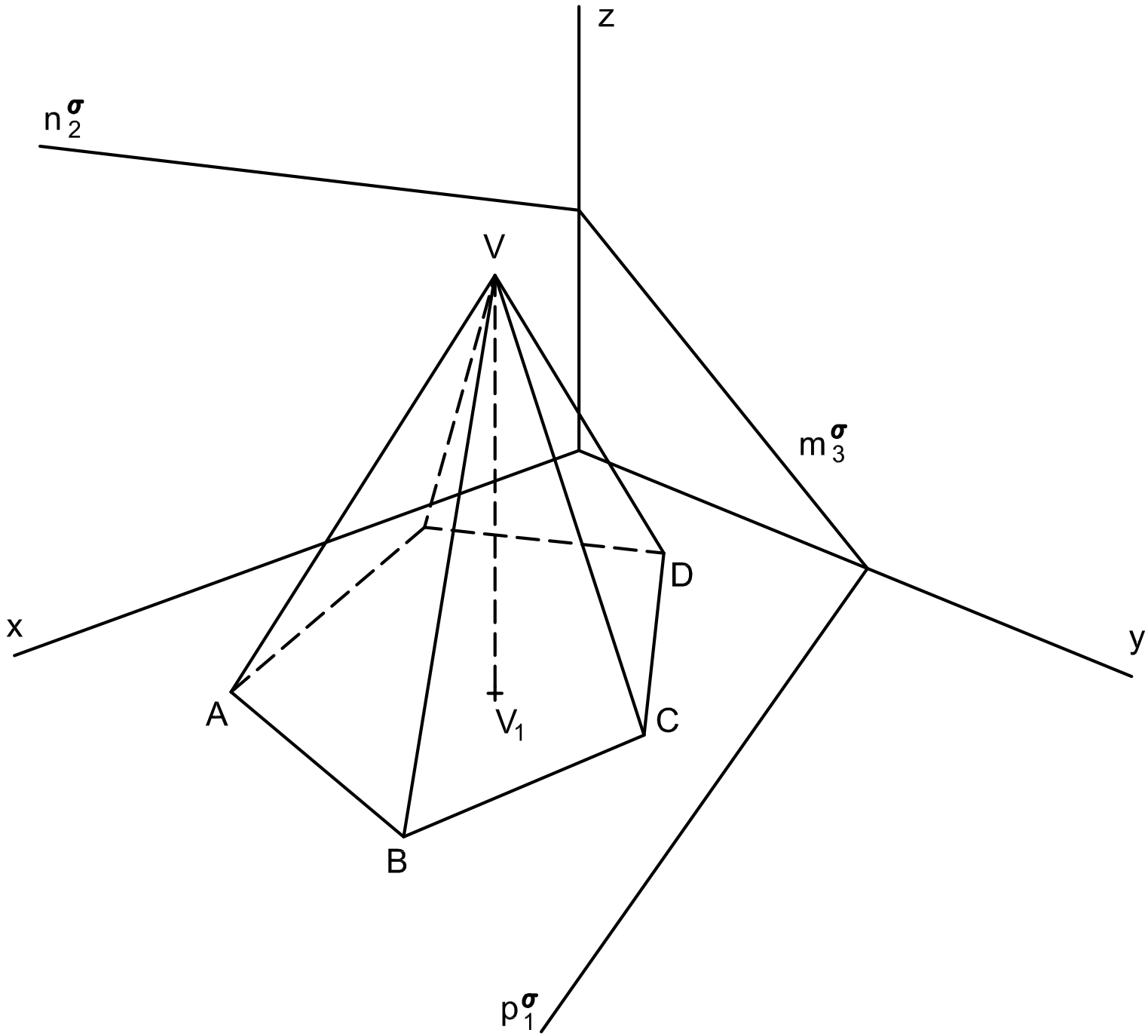
Příklad (Řez jehlanu)

Sestrojte řez pětibokého jehlanu $ABCDEV$ rovinou σ. Podstava jehlanu $ABCDE$ leží v půdorysně, rovina σ je dána stopami

Řešení

1. První bod řezu sestrojíme jako průsečík jedné boční hrany (CV) s rovinou σ, řešíme metodou krycí přímky.
2. Sestrojíme řez pomocí středové kolineace mezi rovinou podstavy a rovinou řezu. Osou kolineace je půdorysná stopa roviny σ, střed kolineace je bod V a pár odpovídajících si bodů je $C, \bar{C}$.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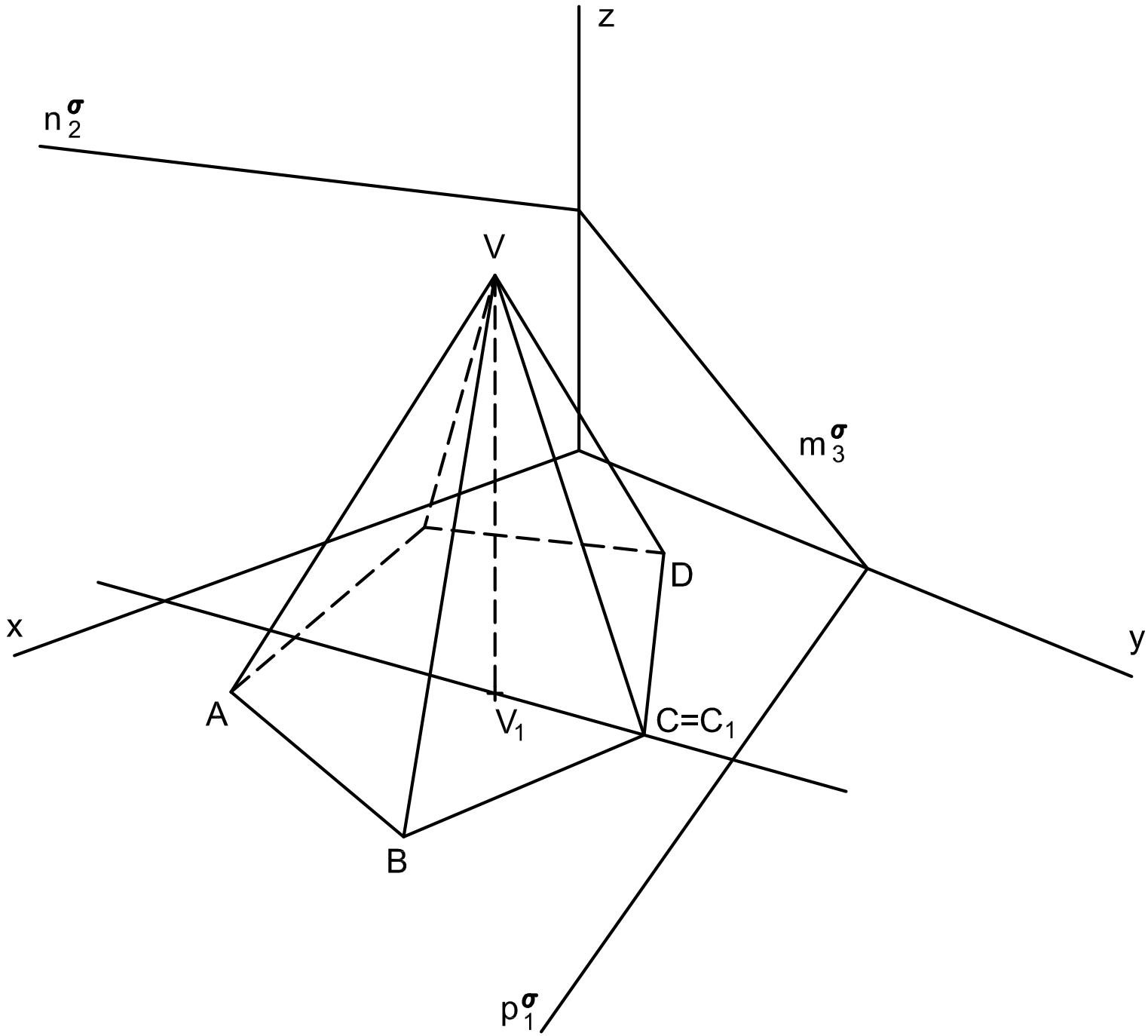
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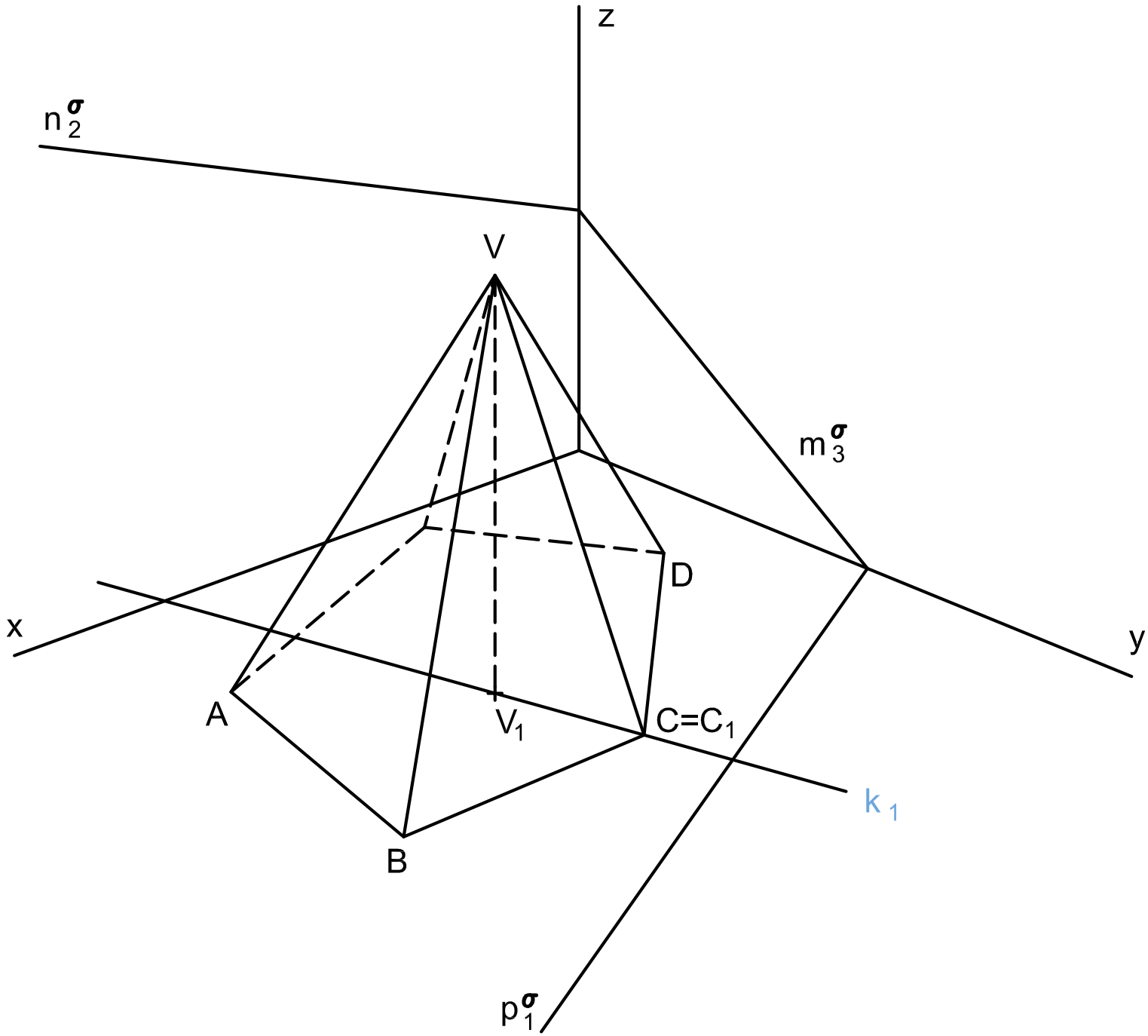
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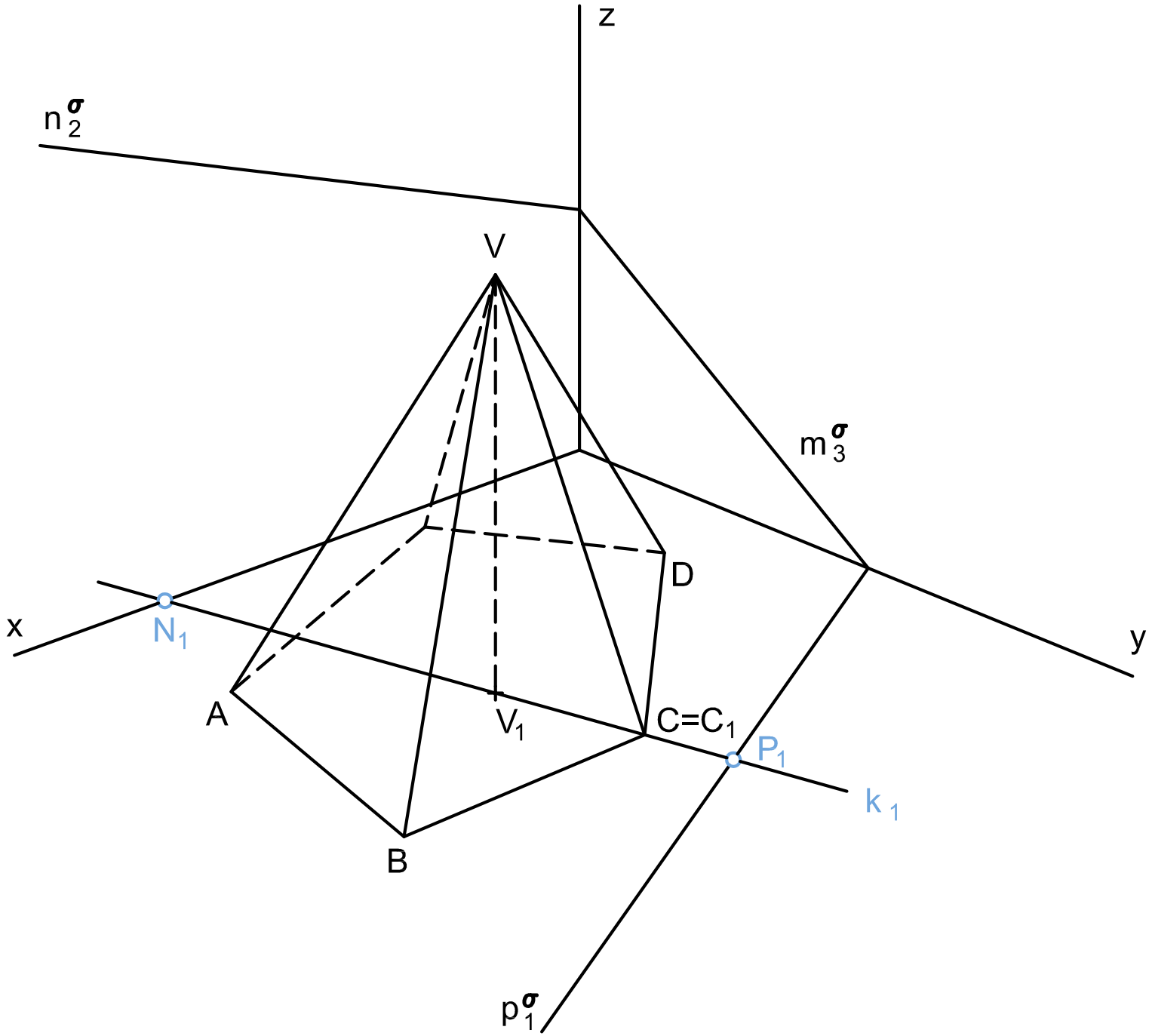
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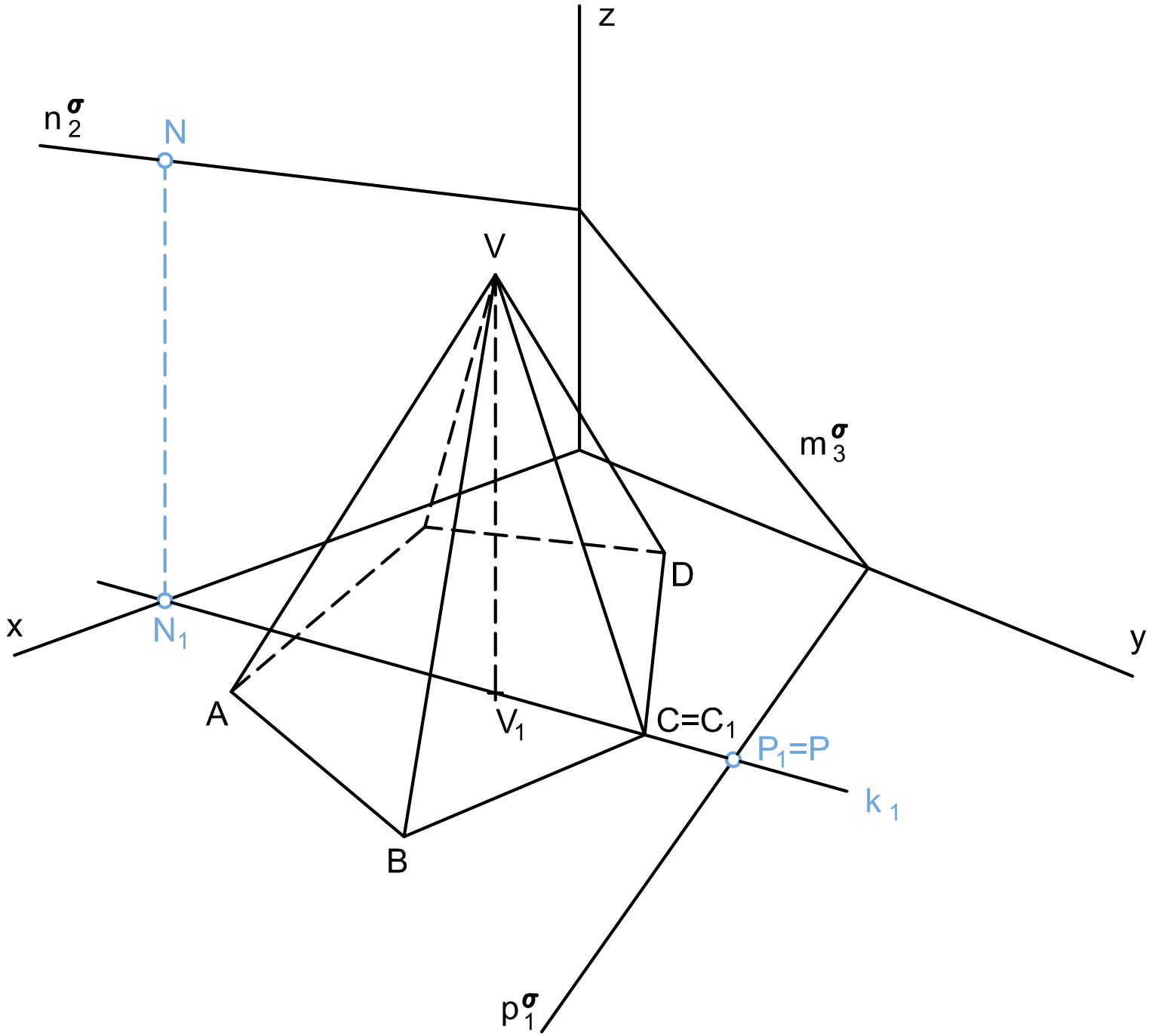
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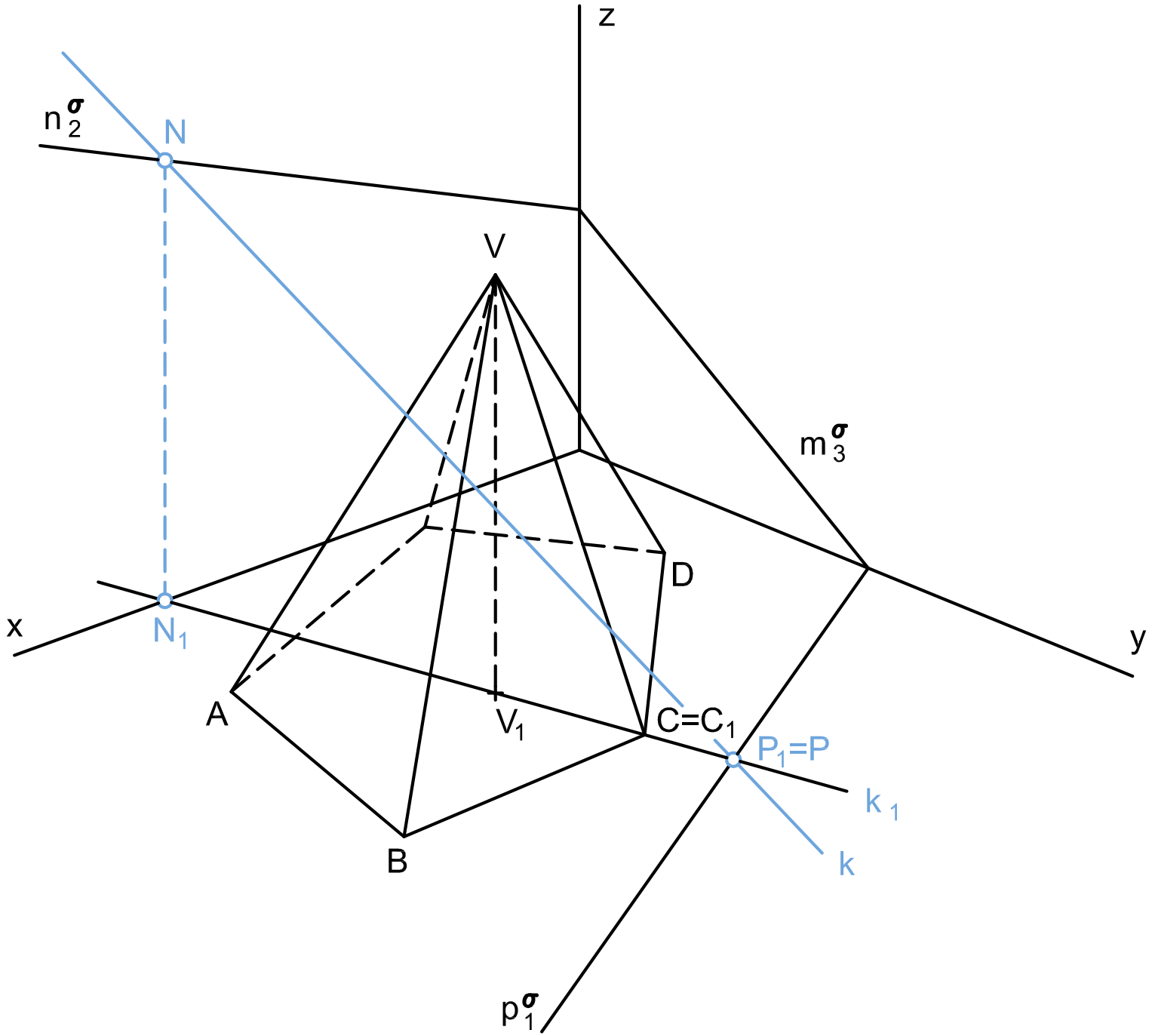
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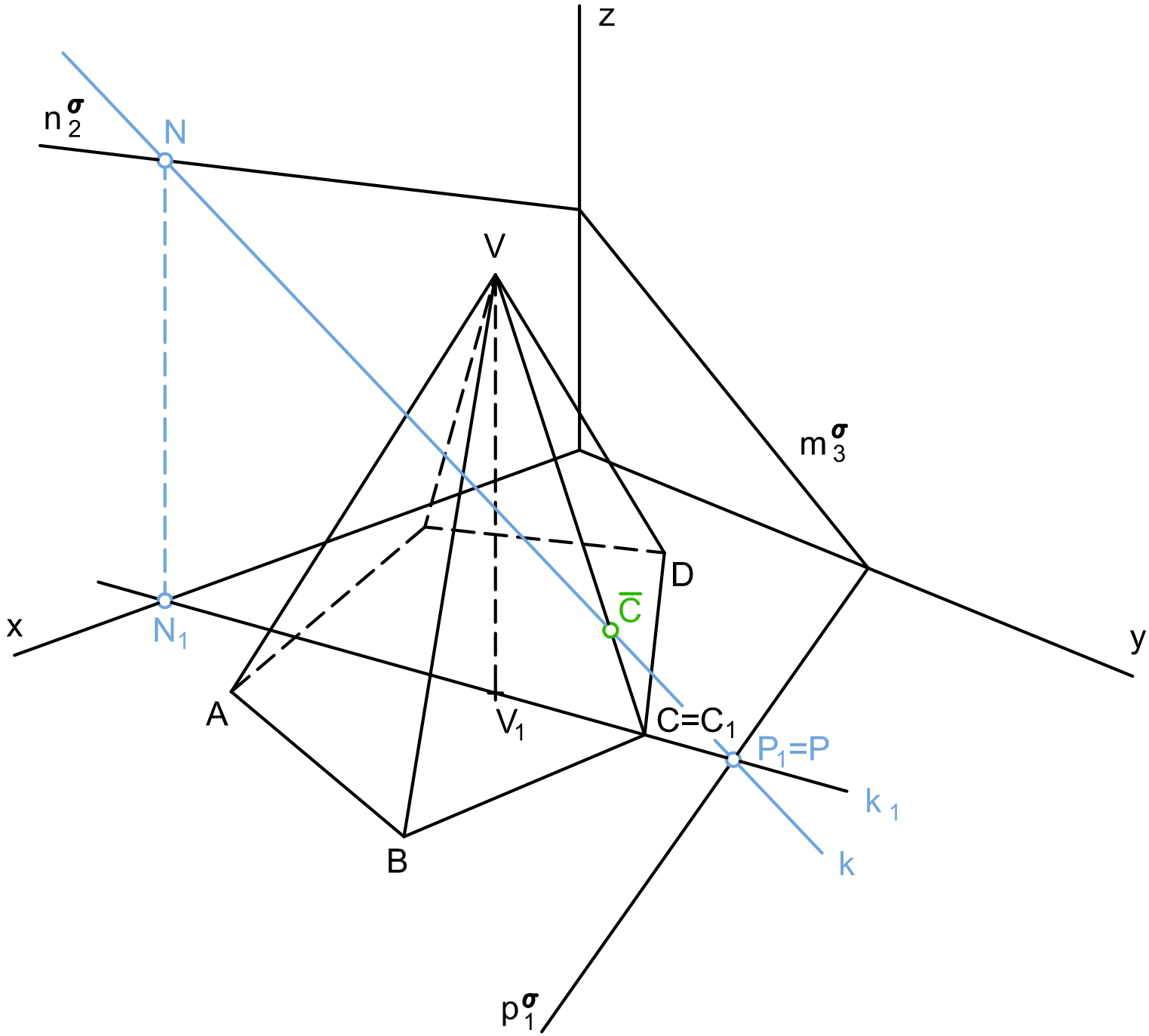
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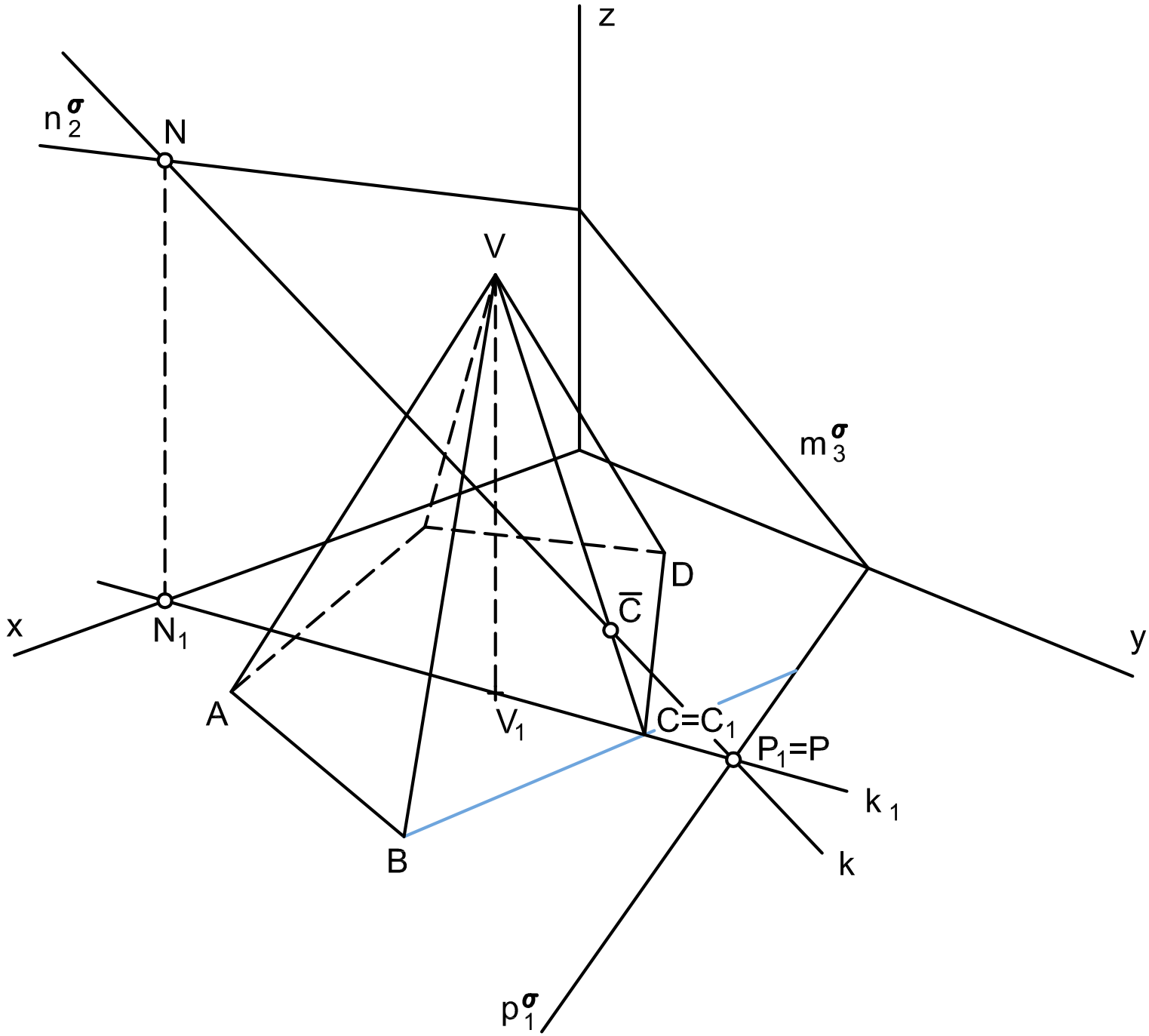
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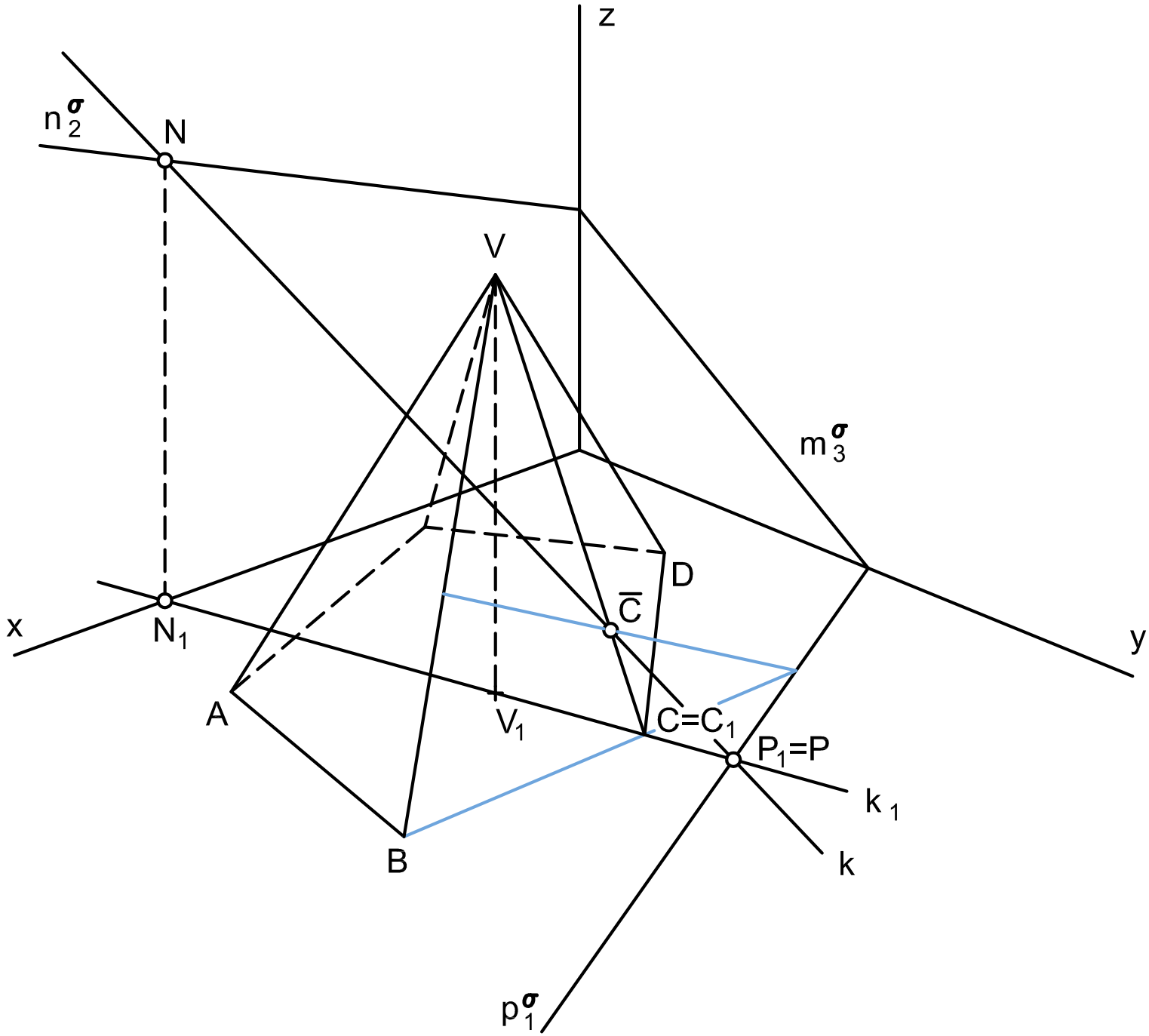
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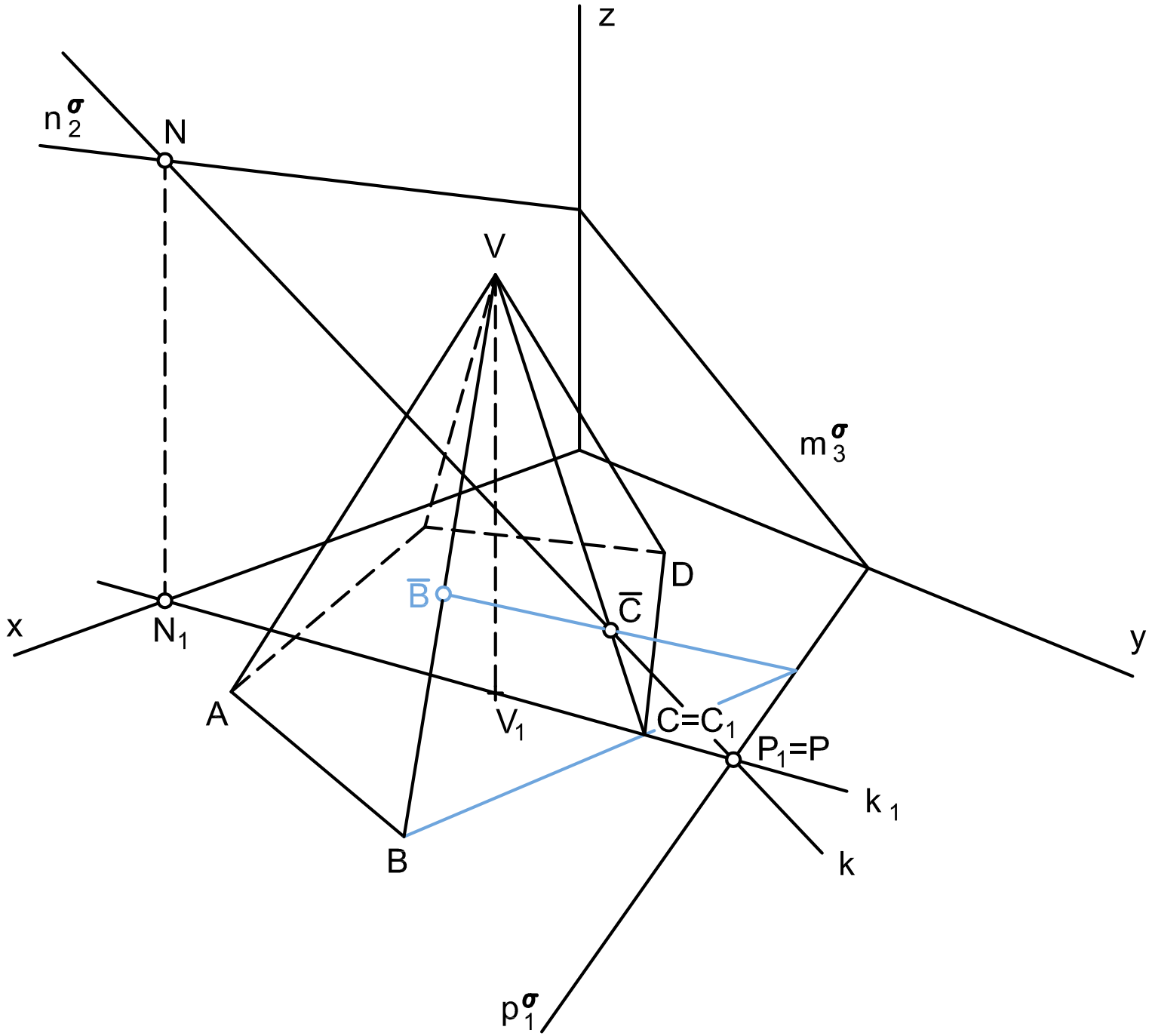
V
m_3^{σ}
D
$\overline{C}$
x
N_1
y
A
V_1
$C=C_1$
$P_1=P$
k_1
B
k
p_1^{σ}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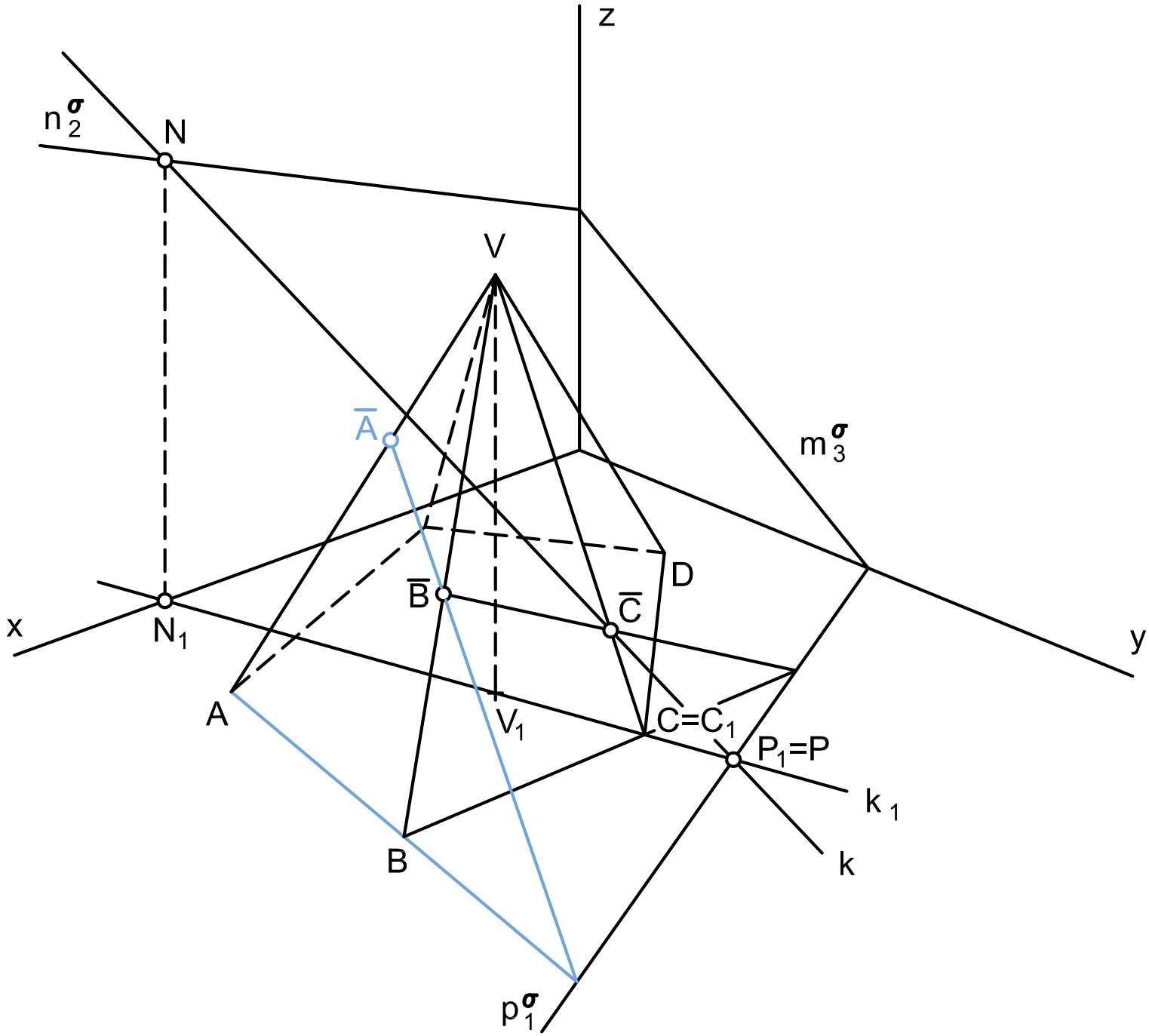
B
p_1^{σ}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k_1
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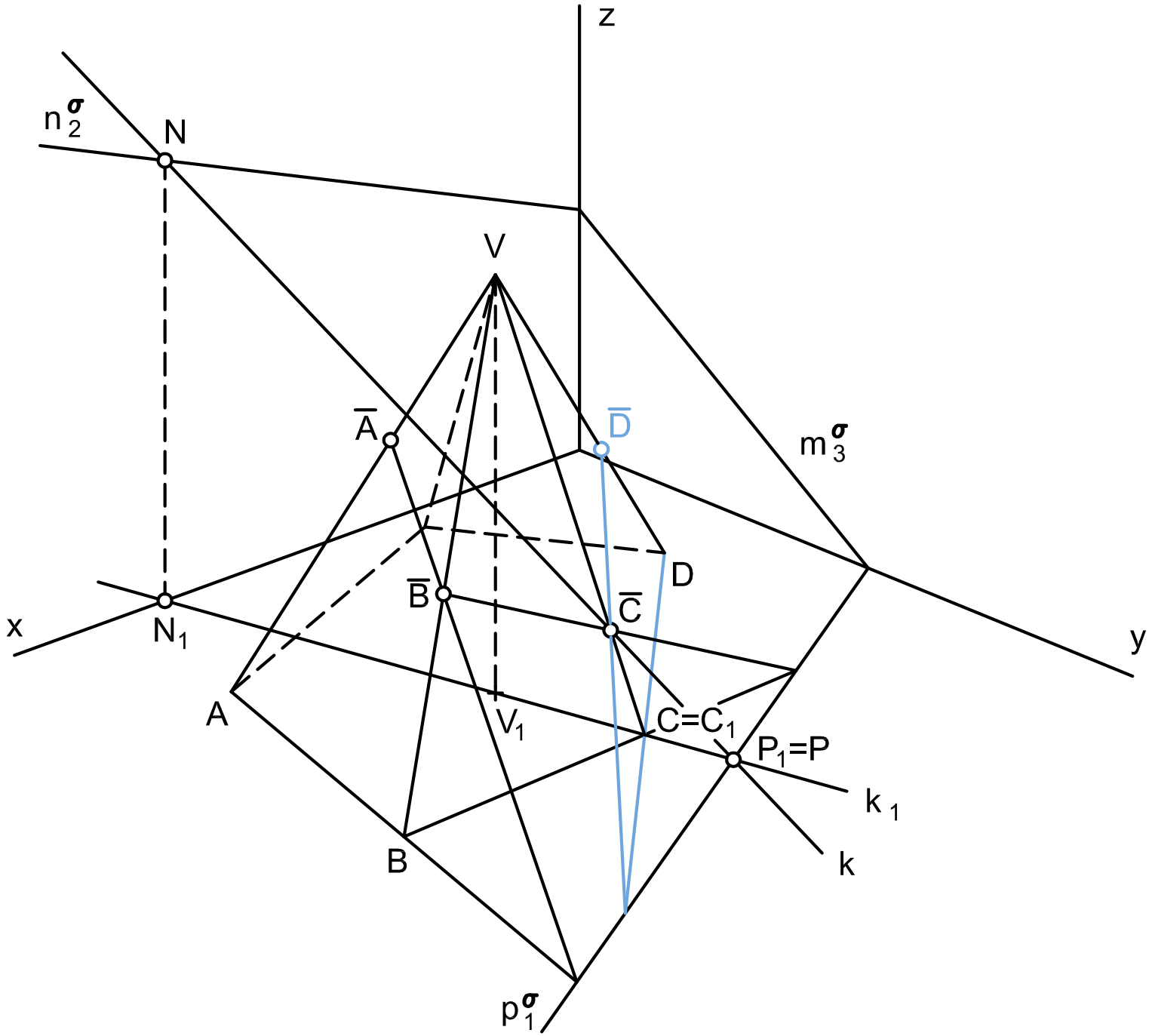
B
p_1^{σ}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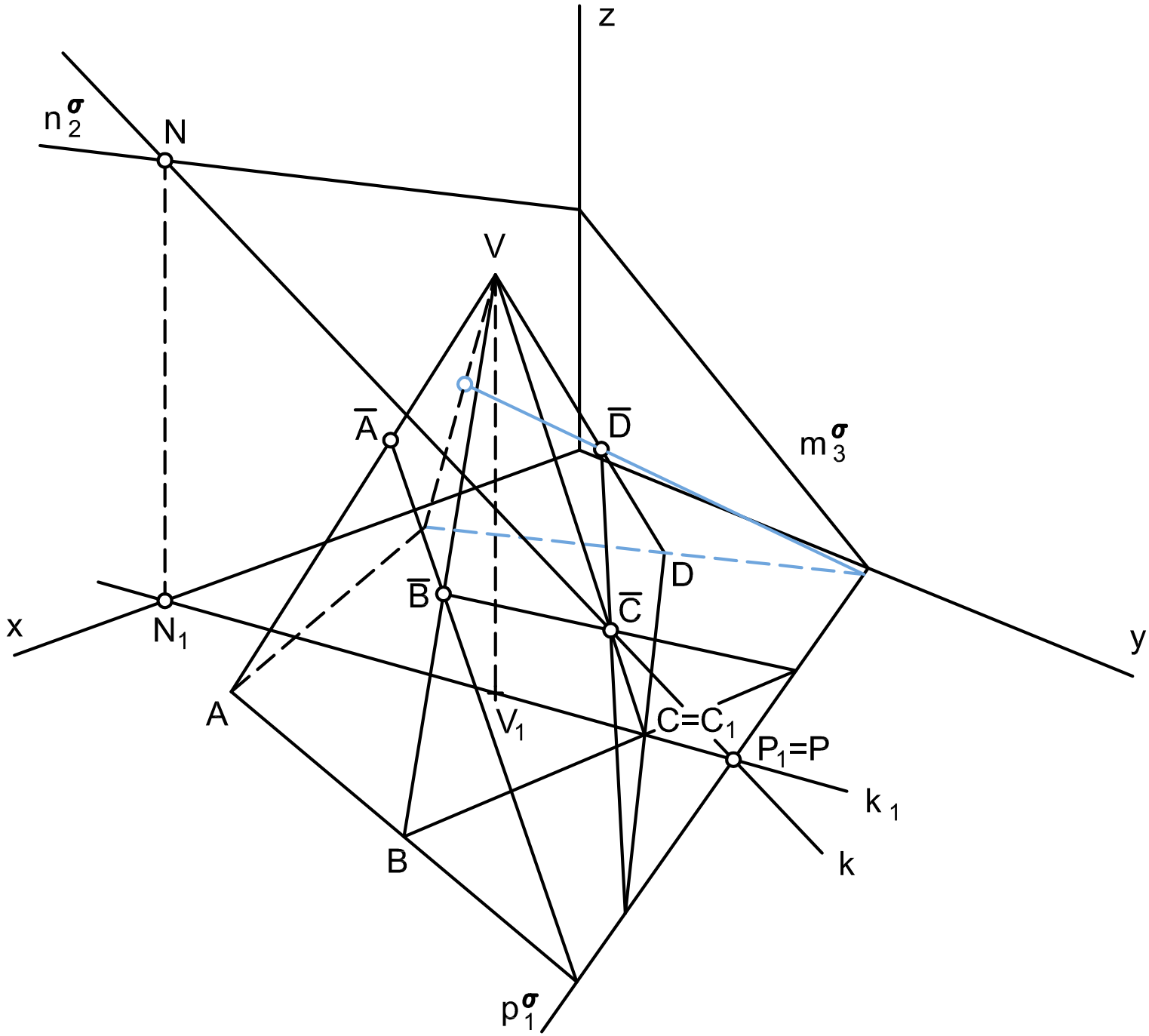
B
p_1^{σ}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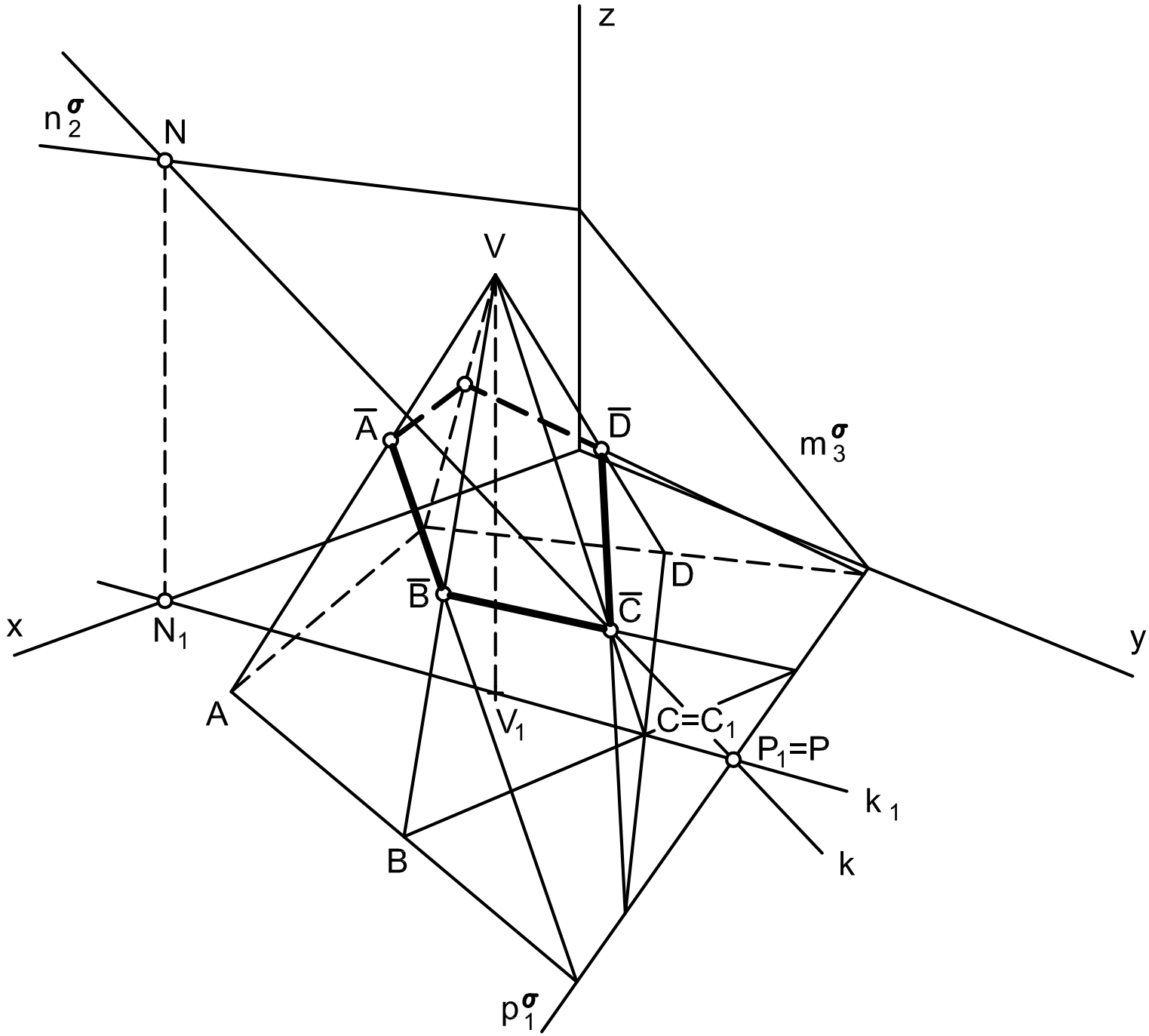
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