

**ПРОСТРАНСТВЕННАЯ СТАТИКА.  
ПРЕДИСЛОВИЕ**

Домашнее задание по теме «Статика» состоит из двух частей: «Плоская статика» и «Пространственная статика».

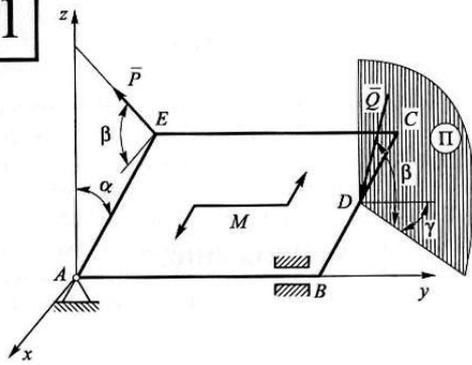
Вторая часть домашнего задания включает в себя две типовые задачи, в которых рассматриваются системы твёрдых тел, находящихся в равновесии под действием заданной пространственной системы сил. Варианты задач из домашнего задания представлены в приложении, в котором первая цифра соответствует типу задачи, вторая - номеру варианта.

Условия типовых задач.

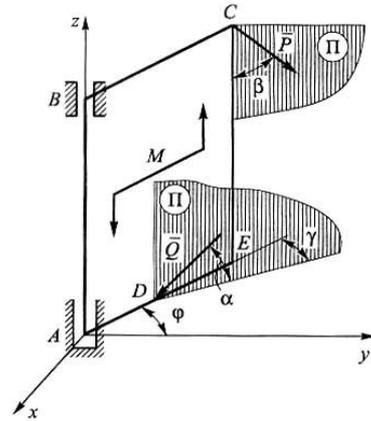
**Задача первого типа.** Определить: реакции сферического шарнира или подпятника  $A$  и подшипника  $B$ , дополнительно в задачах вариантов 4, 13, 16, 18, 25, 26, 27 - реакцию опоры, касающейся середины соответствующего отрезка в точке  $K$ ; в задачах вариантов 9, 24 — реакцию стержня  $KC$ ; в остальных задачах — необходимую для равновесия силу  $Q$ . При этом в вариантах задач, в которых сила  $Q$  приложена в точке  $D$ , принять точку  $D$  лежащей на середине соответствующего отрезка. Принять как заданные величины  $P$  и  $l$ , при этом  $l_1 = 2l$ ,  $R = 2r = l$ ,  $M = 0,5Pl$ . В задачах вариантов 1, 2, 4, 6, 7, 8, 10, 12, 13, 16, 18, 20, 21, 23, 24, 25 принять  $AB = 2BC = 2l$ . Во всех вариантах принять  $\alpha = \gamma = 30^\circ$ ,  $\beta = \varphi = 60^\circ$ , при этом углы  $\alpha$  и  $\beta$  отсчитываются в вертикальных плоскостях, а углы  $\gamma$  и  $\varphi$  - в горизонтальных.

**Задача второго типа.** Определить реакцию заделки, если заданы  $P$  и  $l$ , пара сил с моментом  $M = 3Pl$ ,  $q_0 = 3P/l$ ,  $AB = BC = CD = DE = l$ ,  $\gamma = 30^\circ$ ,  $\beta = 60^\circ$ .

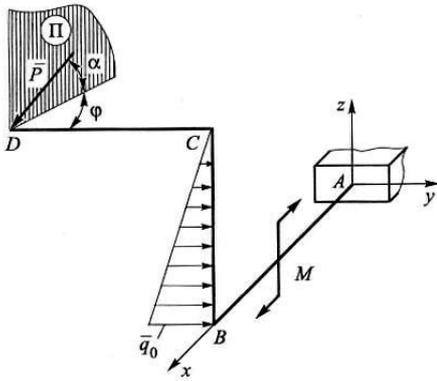
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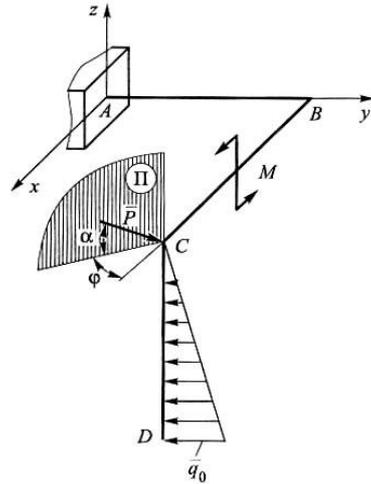
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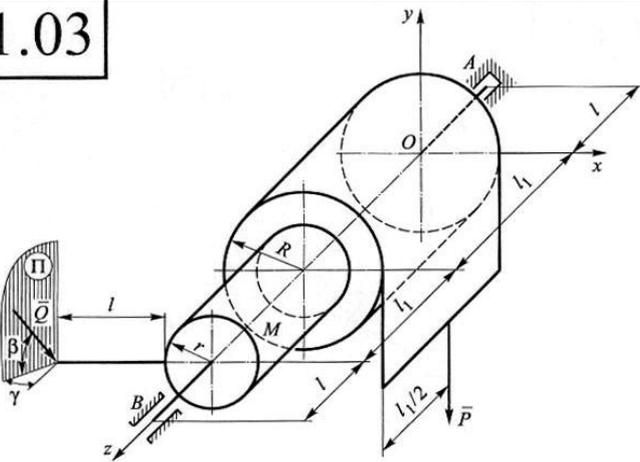
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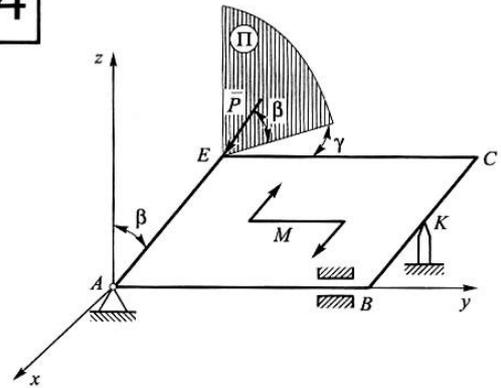
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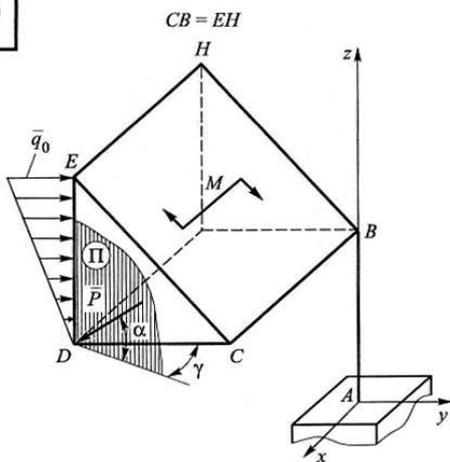
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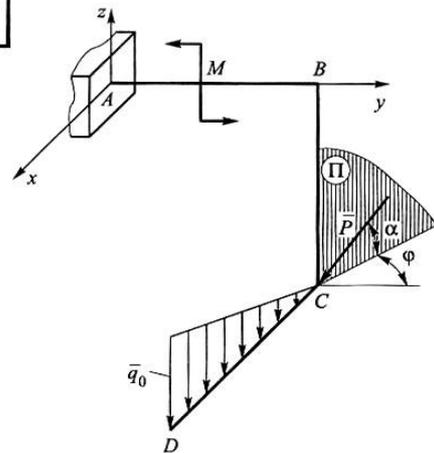
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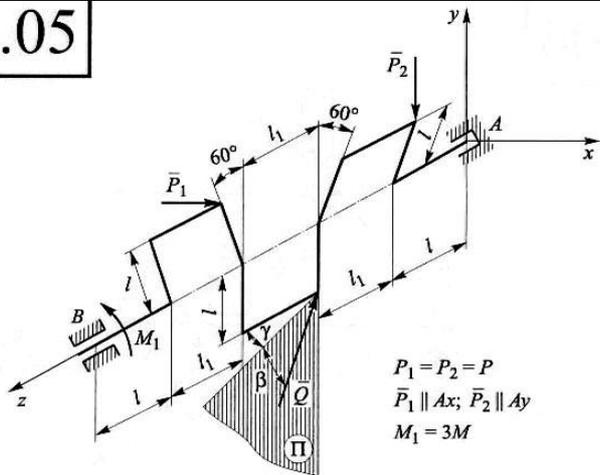
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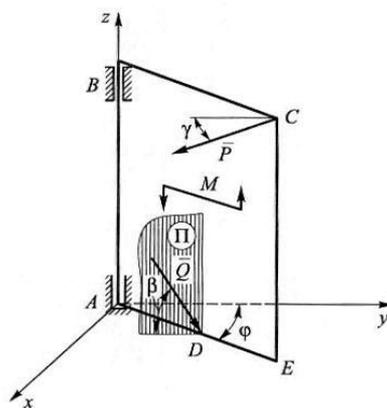
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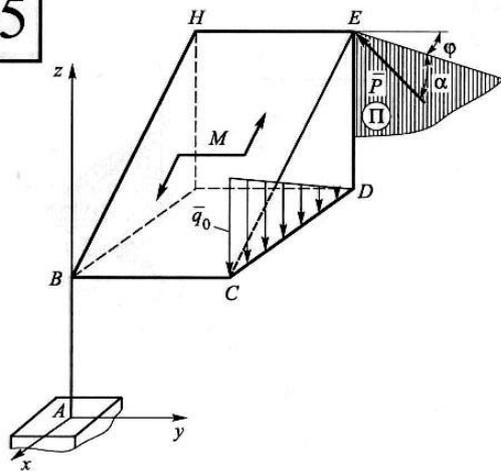
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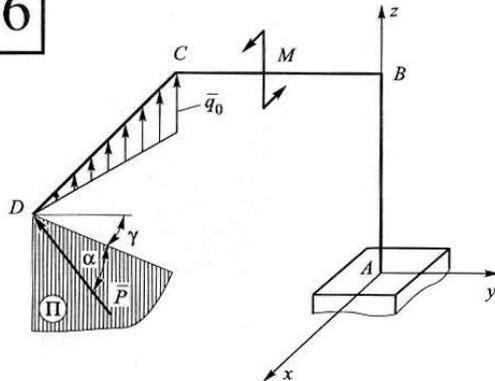
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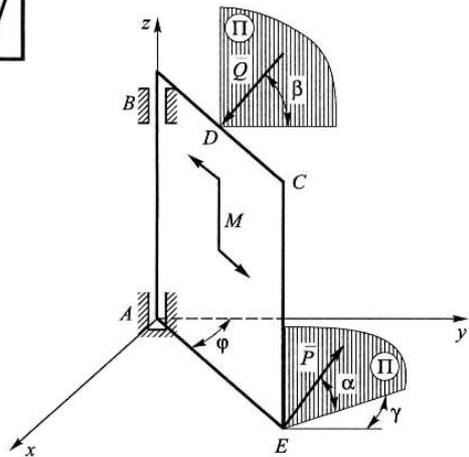
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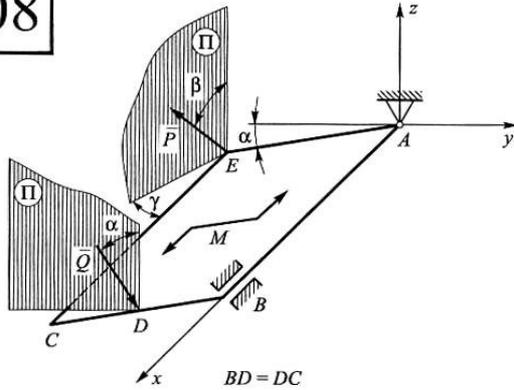
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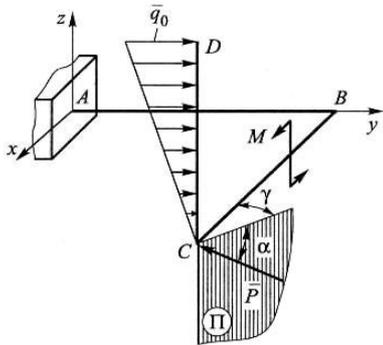
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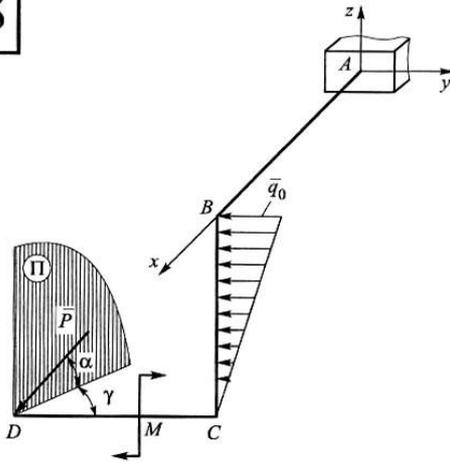
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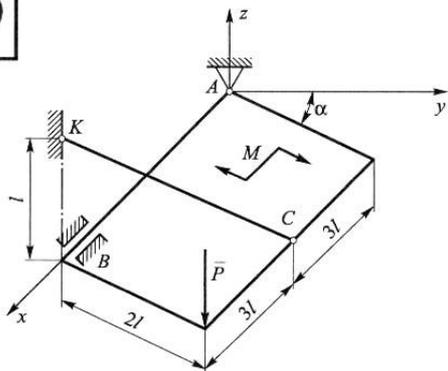
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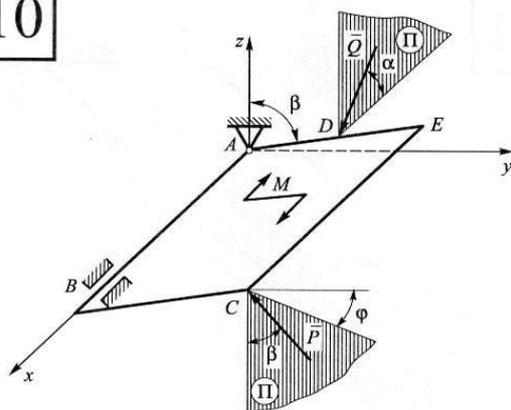
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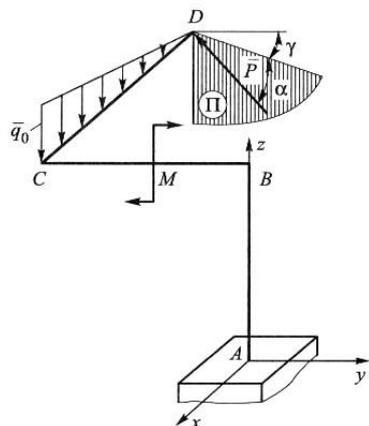
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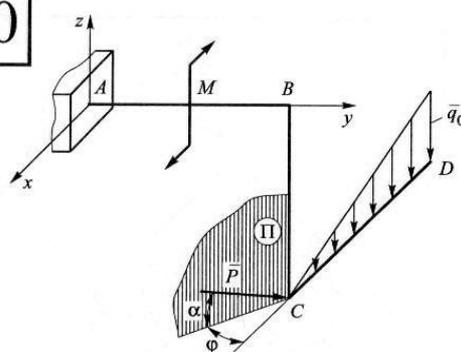
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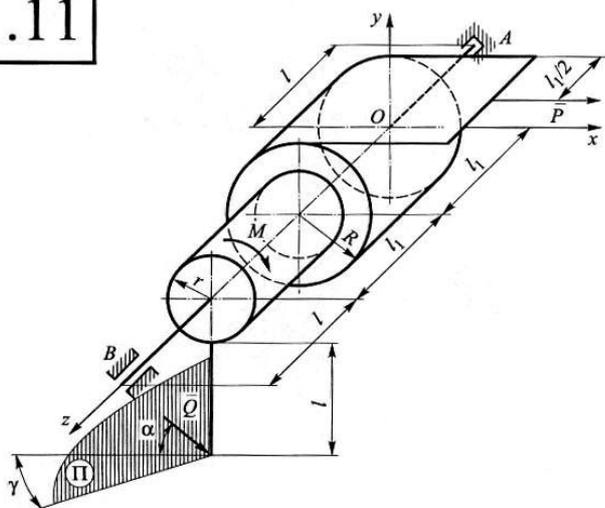
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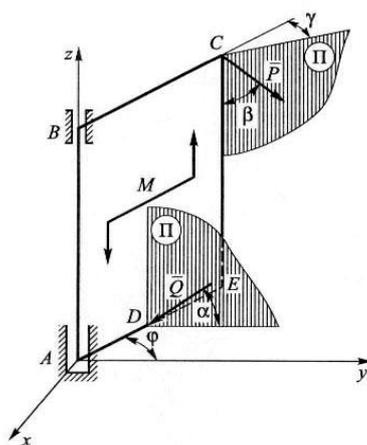
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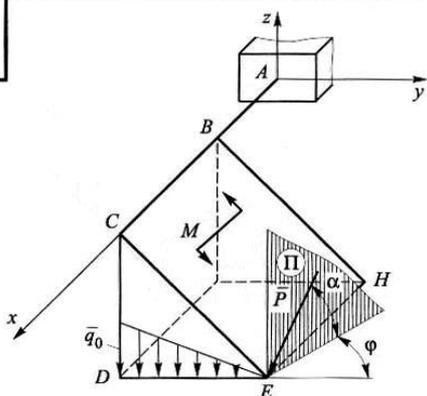
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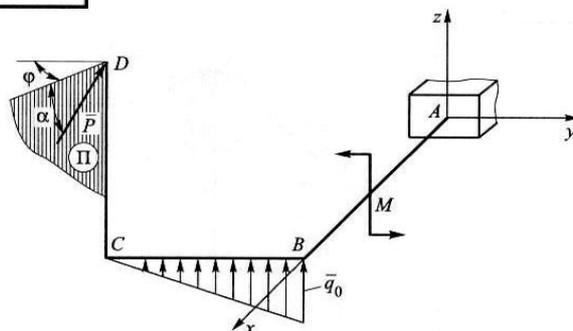
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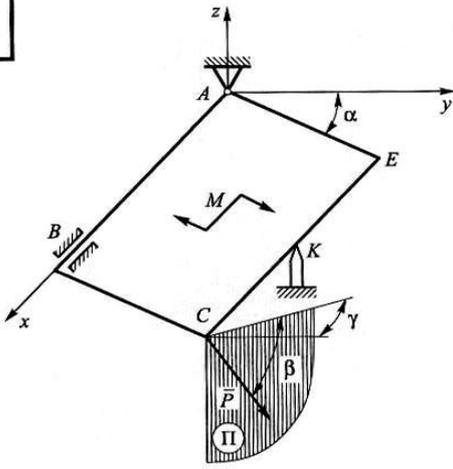
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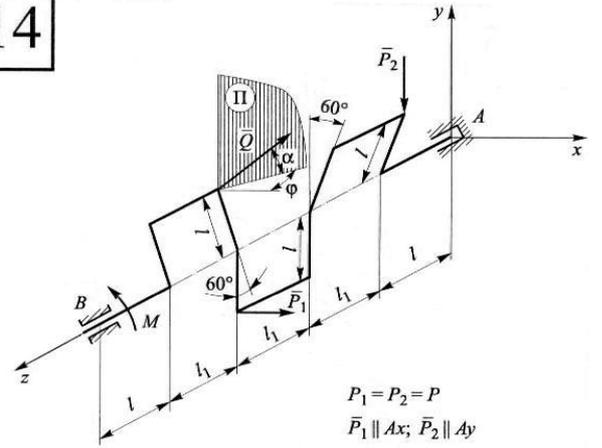
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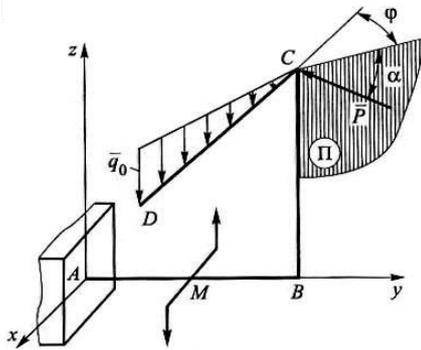
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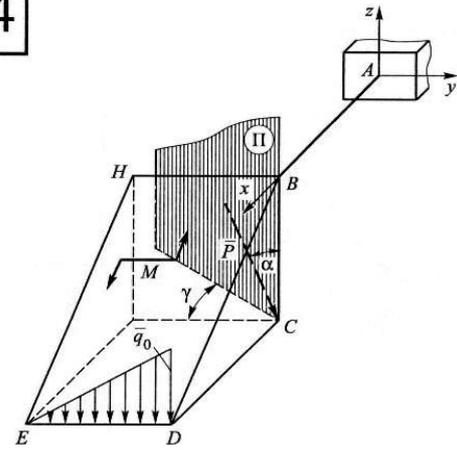
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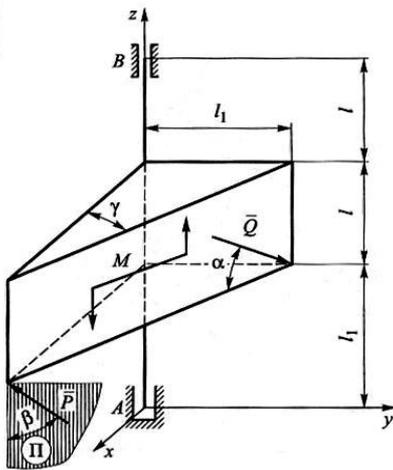
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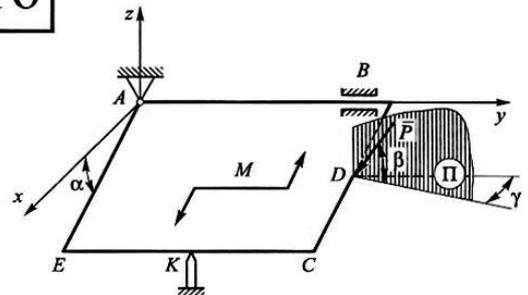
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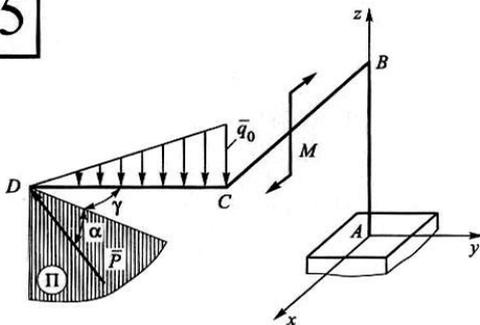
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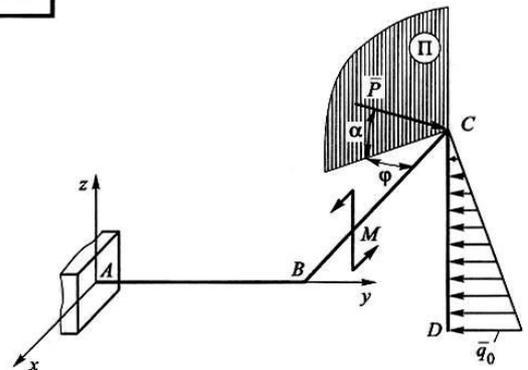
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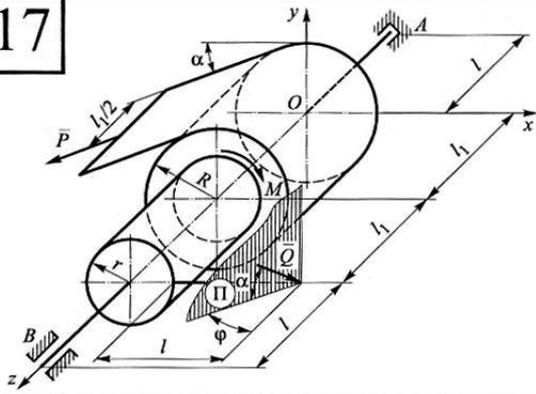
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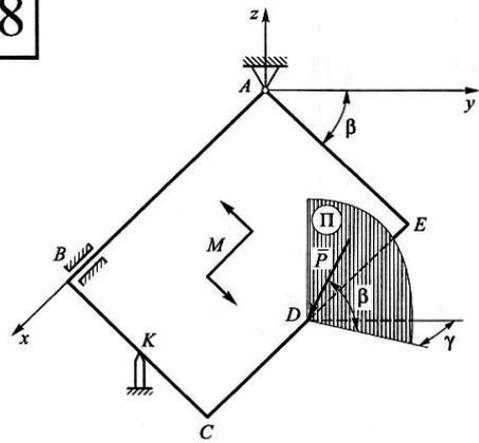
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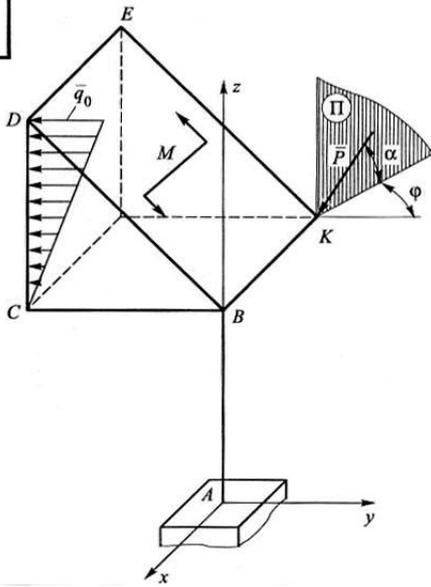
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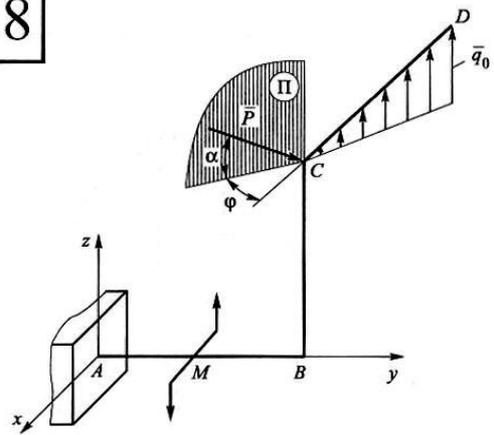
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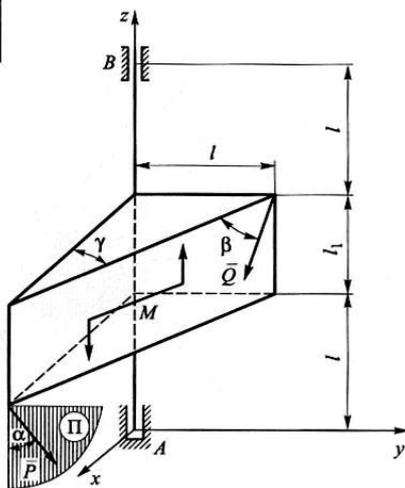
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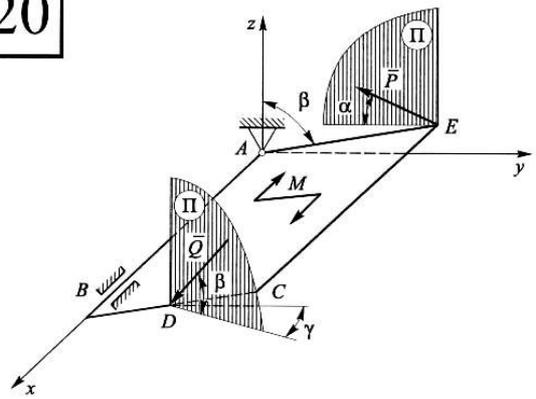
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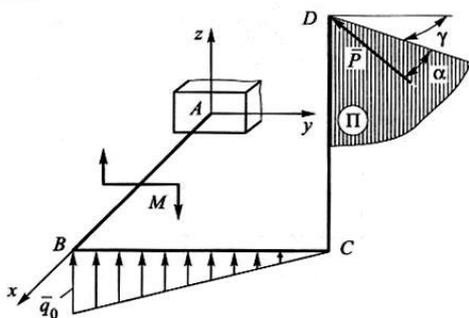
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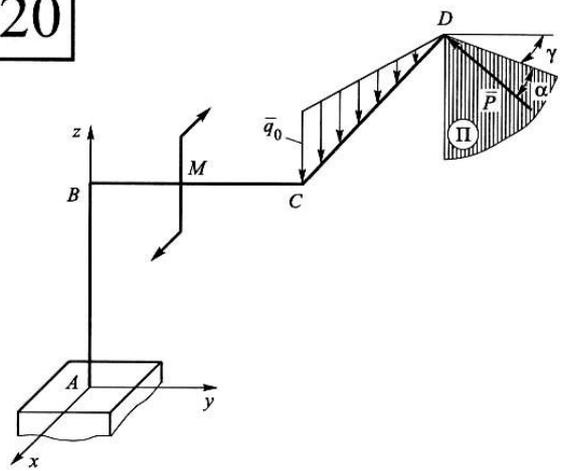
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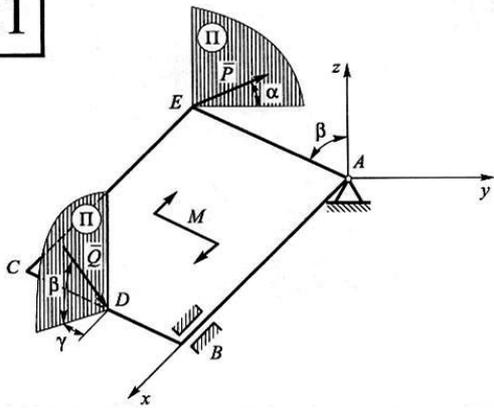
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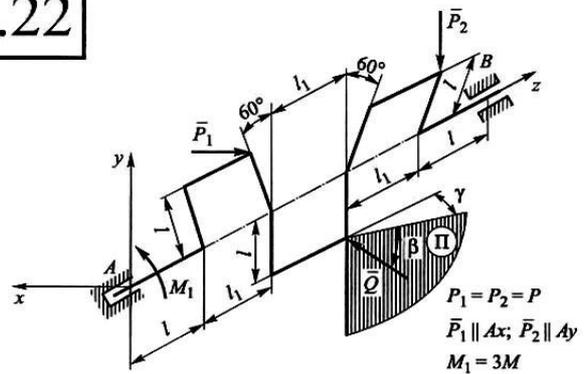
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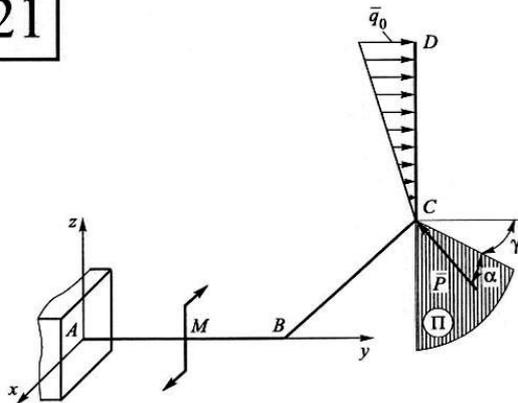
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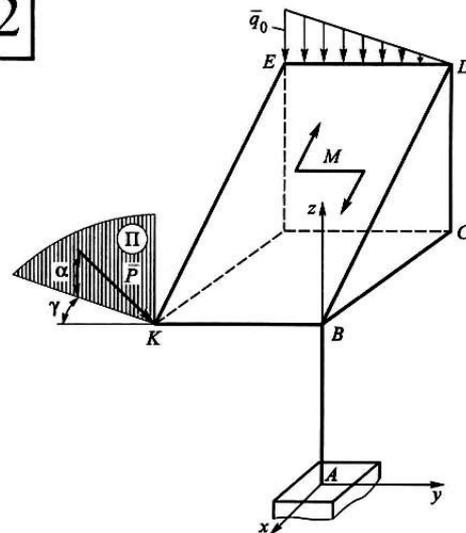
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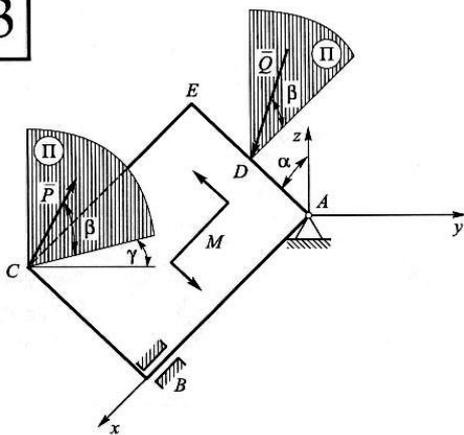
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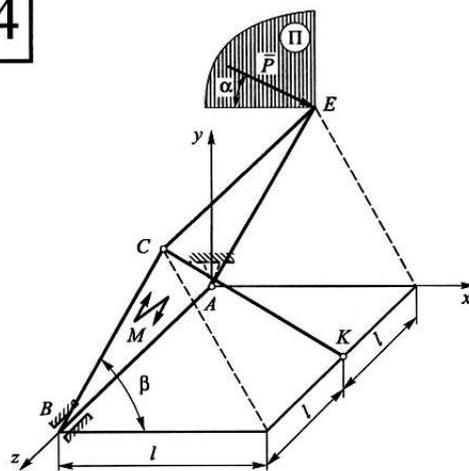
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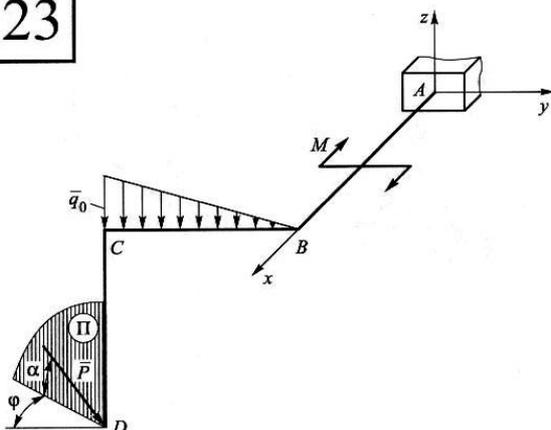
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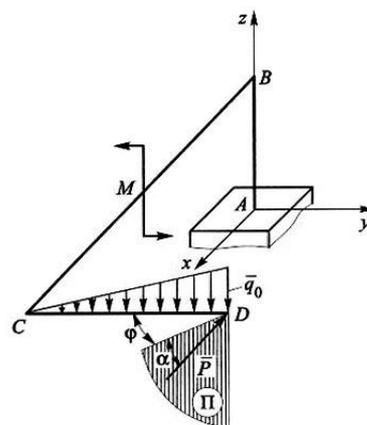
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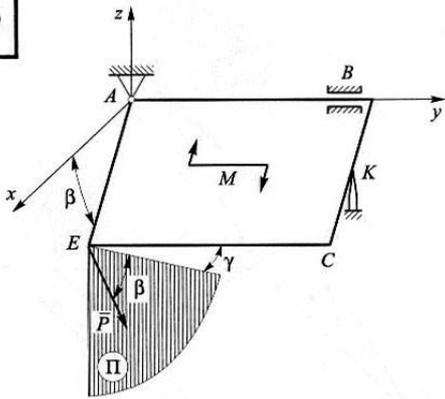
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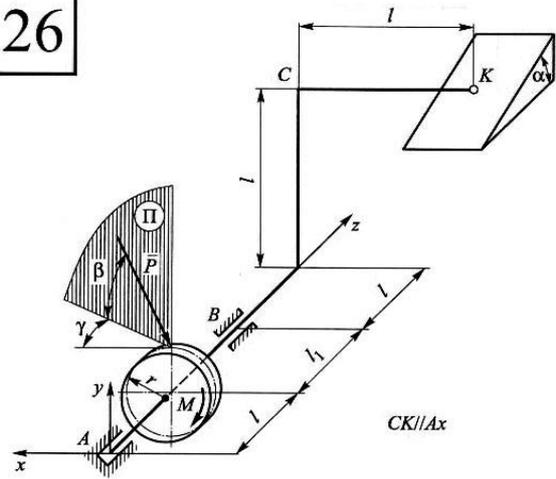
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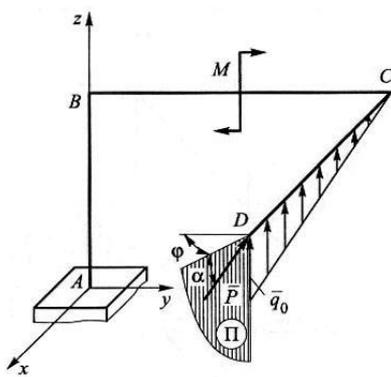
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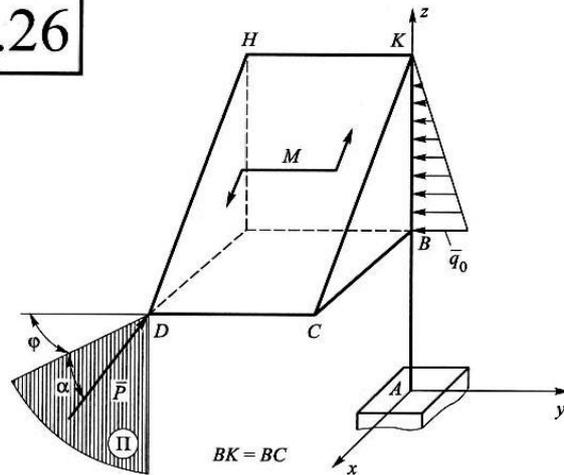
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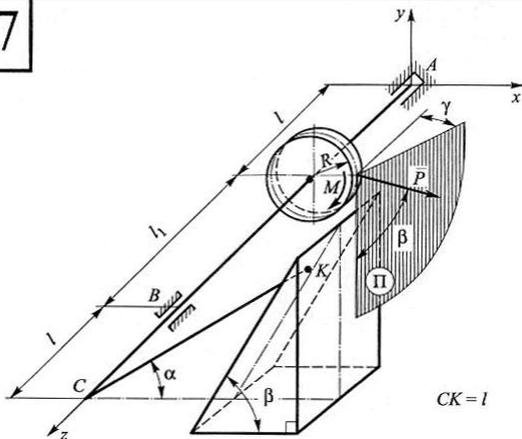
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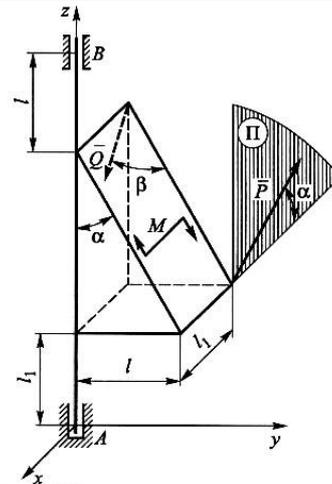
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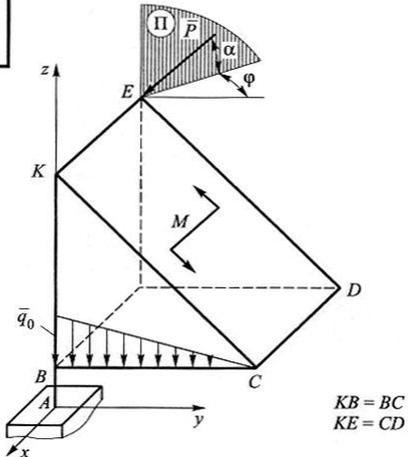
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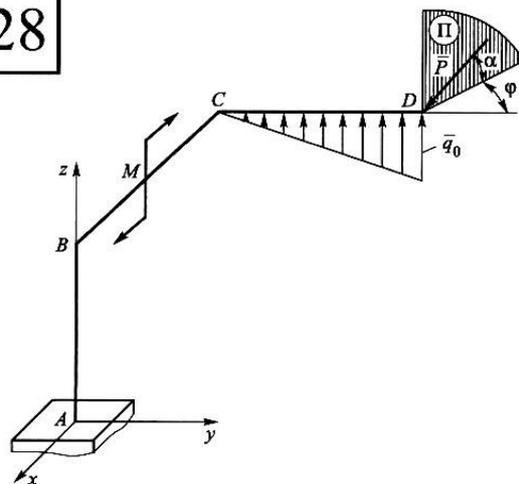
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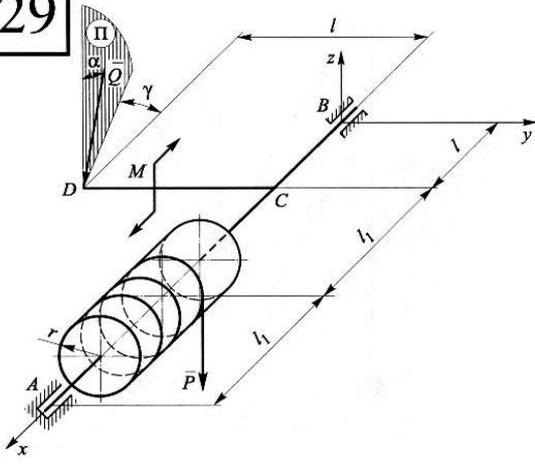
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