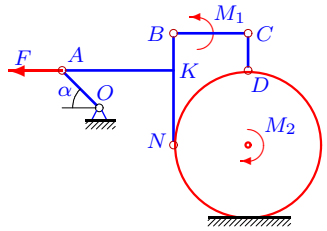
Принцип возможных перемещений (2)

Механизм с идеальными стационарными связями находится в равновесии под действием силы F и моментов M_1, M_2. Длины звеньев даны в сантиметрах. Стержни, направление которых не указано, считать горизонтальными или вертикальными. Диск касается горизонтальной поверхности без проскальзывания. Найти величину F.

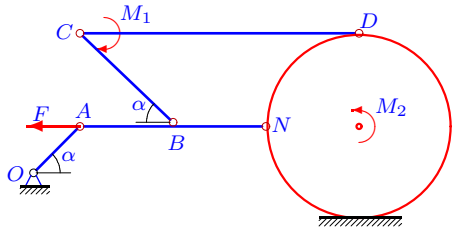
Кирсанов М.Н. **Решебник. Теоретическая механика**/Под ред. А. И. Кириллова.– М.: ФИЗМАТЛИТ, 2008. — 384 с. (с.158.)

Задача D-34.1. *Акулина Даша*



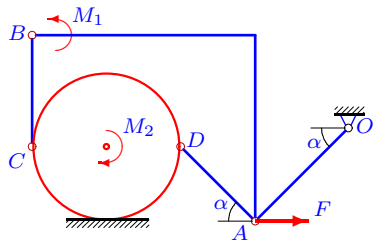
$M_1 = 17$, $M_2 = 35$, $R = 6$, $OA = 3\sqrt{2}$,
$AK = 9$, $BK = 3$, $KN = 6$, $CD = 3$, $\alpha = 45°$.

Задача D-34.2. *Анарбаев Б.*



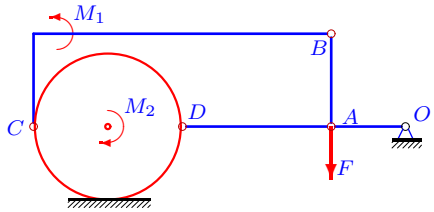
$M_1 = 33$, $M_2 = 89$, $R = 6$, $OA = 3\sqrt{2}$,
$AB = 6$, $BN = 6$, $BC = 6\sqrt{2}$, $CD = 18$, α=45°

Задача D-34.3. *Баранов Максим*



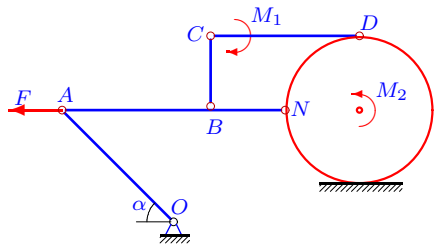
$M_1 = 945$, $M_2 = 570$, $R = 4$, $OA = 5\sqrt{2}$,
$AD = 4\sqrt{2}$, $BC = 6$, $\alpha = 45°$.

Задача D-34.4. *Бебирли Эмиль*



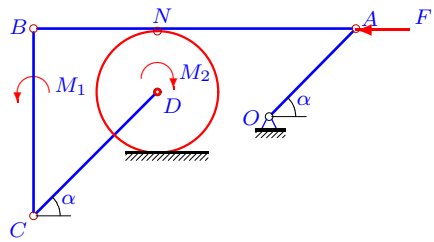
$M_1 = 80$, $M_2 = 49$, $R = 4$, $OA = 4$,
$AB = 5$, $AD = 8$.

Задача D-34.5. *Биль Евгений*



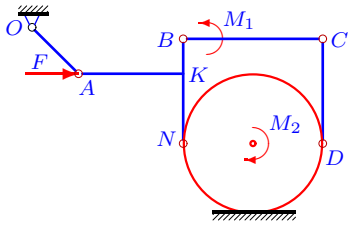
$M_1 = 90$, $M_2 = 69$, $R = 4$, $OA = 6\sqrt{2}$,
$AB = 8$, $BN = BC = 4$, $CD = 8$, α=45°

Задача D-34.6. *Волкобой Илья*



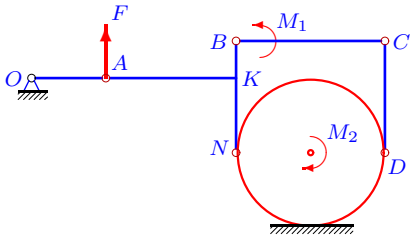
$M_1 = 504$, $M_2 = 518$, $R = 5$, $OA = 7\sqrt{2}$,
$CD = 10\sqrt{2}$, $AN = 16$, $AB = 26$, $\alpha = 45°$.

Задача D-34.7. *Глядяев А.Д.*



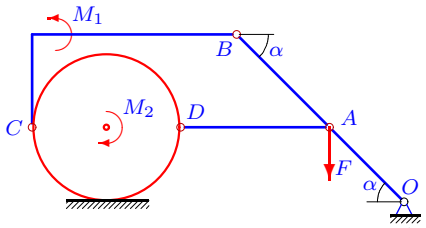
$M_1 = 26$, $M_2 = 74$, $R = 6$, $OA = 4\sqrt{2}$,
$AK = 9$, $BK = 3$, $KN = 6$, $CD = 9$, $\alpha = 45°$.

Задача D-34.8. *Горбатенко Егор*



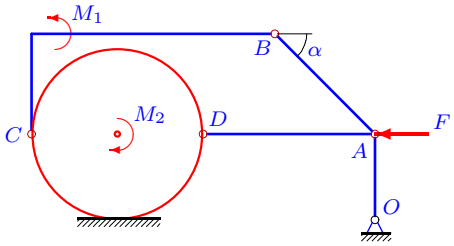
$M_1 = 32$, $M_2 = 44$, $R = 4$, $OA = 4$,
$AK = 7$, $BK = 2$, $KN = 4$, $CD = 6$.

Задача D-34.9. *Губин Иван*



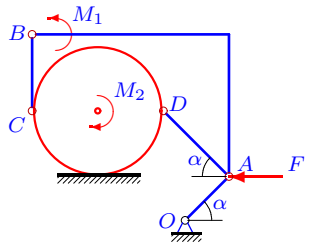
$M_1 = 15$, $M_2 = 12$, $R = 4$, $OA = 4\sqrt{2}$,
$AB = 5\sqrt{2}$, $AD = 8$, $\alpha = 45°$.

Задача D-34.10. *Драгин Егор*



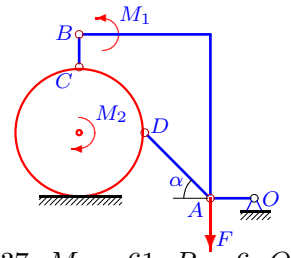
$M_1 = 68$, $M_2 = 119$, $R = 6$, $OA = 6$,
$AB = 7\sqrt{2}$, $AD = 12$, $\alpha = 45°$.

Задача D-34.11. *Исаков Александр*



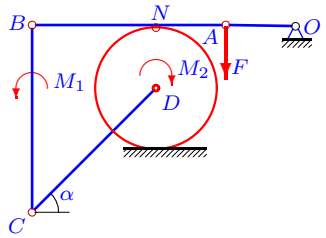
$M_1 = 210$, $M_2 = 224$, $R = 6$, $OA = 4\sqrt{2}$,
$AD = 6\sqrt{2}$, $BC = 7$, $\alpha = 45°$.

Задача D-34.12. *Картушин Александр*



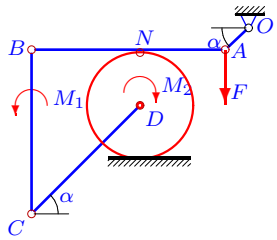
$M_1 = 37$, $M_2 = 61$, $R = 6$, $OA = 4$,
$AD = 6\sqrt{2}$, $BC = 3$, $\alpha = 45°$.

Задача D-34.13. *Костина Даша*



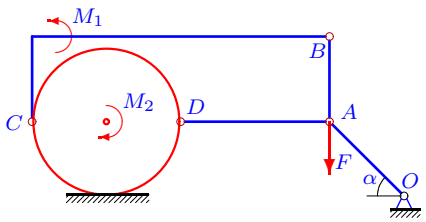
$M_1 = 162$, $M_2 = 137$, $R = 8$, $OA = 9$,
$CD = 16\sqrt{2}$, $AN = 9$, $AB = 25$, $\alpha = 45°$.

Задача D-34.14. *Лбова Александра*



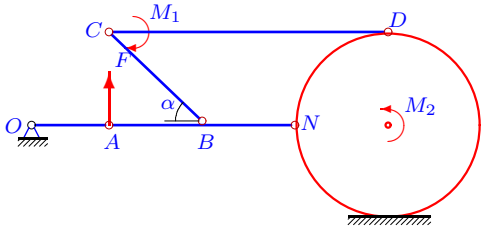
$M_1 = 495$, $M_2 = 501$, $R = 7$, $OA = 3\sqrt{2}$,
$CD = 14\sqrt{2}$, $AN = 11$, $AB = 25$, $\alpha = 45°$.

Задача D-34.15. *Муржи Николай*



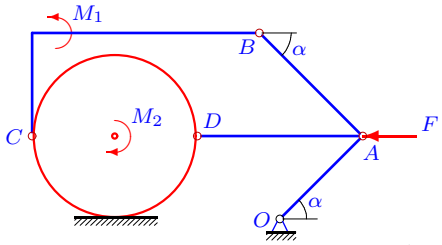
$M_1 = 27$, $M_2 = 42$, $R = 7$, $OA = 7\sqrt{2}$,
$AB = 8$, $AD = 14$, $\alpha = 45°$.

Задача D-34.16. *Никитенков Федор*



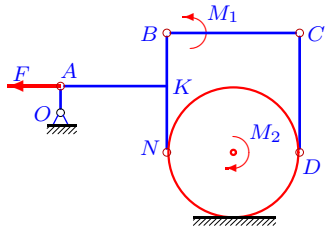
$M_1 = 360$, $M_2 = 905$, $R = 6$, $OA = 5$,
$AB = 6$, $BN = 6$, $BC = 6\sqrt{2}$, $CD = 18$, α=45°

Задача D-34.17. *Новиков Павел*



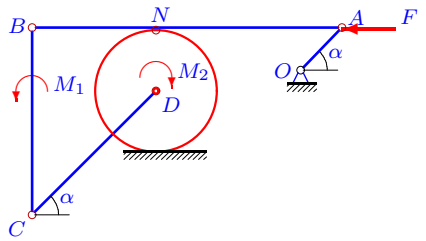
$M_1 = 14$, $M_2 = 23$, $R = 4$, $OA = 4\sqrt{2}$,
$AB = 5\sqrt{2}$, $AD = 8$, $\alpha = 45°$.

Задача D-34.18. *Опитев Владислав*



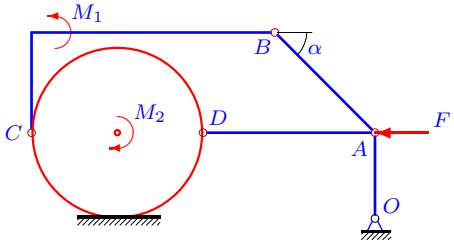
$M_1 = 104$, $M_2 = 134$, $R = 5$, $OA = 2$,
$AK = 8$, $BK = 4$, $KN = 5$, $CD = 9$.

Задача D-34.19. *Оршак Сергей*



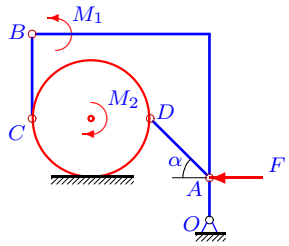
$M_1 = 99$, $M_2 = 425$, $R = 6$, $OA = 4\sqrt{2}$,
$CD = 12\sqrt{2}$, $AN = 18$, $AB = 30$, $\alpha = 45°$.

Задача D-34.20. *Парашин Андрей*



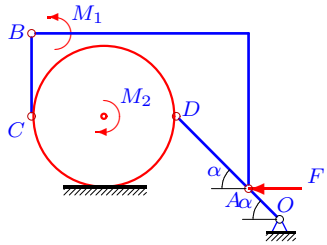
$M_1 = 68$, $M_2 = 119$, $R = 6$, $OA = 6$,
$AB = 7\sqrt{2}$, $AD = 12$, $\alpha = 45°$.

Задача D-34.21. *Парохин Антон*



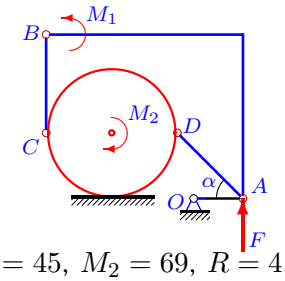
$M_1 = 615$, $M_2 = 1255$, $R = 7$, $OA = 5$,
$AD = 7\sqrt{2}$, $BC = 10$, $\alpha = 45°$.

Задача D-34.22. *Пархоменко Иван*



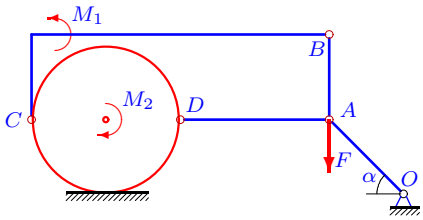
$M_1 = 252$, $M_2 = 508$, $R = 7$, $OA = 3\sqrt{2}$,
$AD = 7\sqrt{2}$, $BC = 8$, $\alpha = 45°$.

Задача D-34.23. *Петров Кирилл*



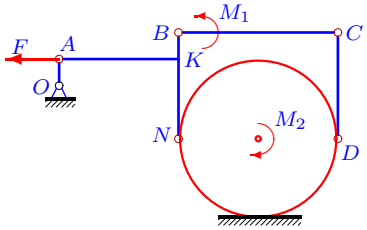
$M_1 = 45$, $M_2 = 69$, $R = 4$, $OA = 3$,
$AD = 4\sqrt{2}$, $BC = 6$, $\alpha = 45°$.

Задача D-34.24. *Петухов Антон*



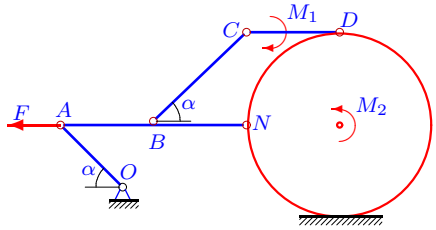
$M_1 = 27$, $M_2 = 42$, $R = 7$, $OA = 7\sqrt{2}$,
$AB = 8$, $AD = 14$, $\alpha = 45°$.

Задача D-34.25. *Руфин Никита*



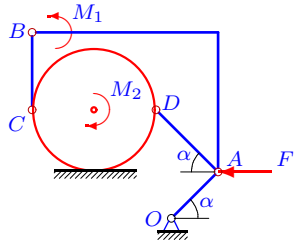
$M_1 = 21$, $M_2 = 33$, $R = 6$, $OA = 2$,
$AK = 9$, $BK = 2$, $KN = 6$, $CD = 8$.

Задача D-34.26. *Самойлов Никита*



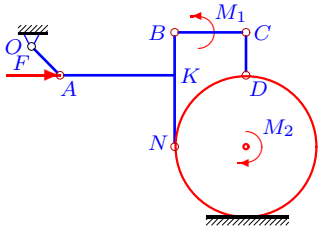
$M_1 = 22$, $M_2 = 60$, $R = 6$, $OA = 4\sqrt{2}$,
$AB = 6$, $BN = 6$, $BC = 6\sqrt{2}$, $CD = 6$, α=45°

Задача D-34.27. *Семенова Ирина*



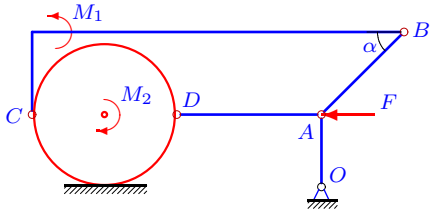
$M_1 = 165$, $M_2 = 170$, $R = 4$, $OA = 3\sqrt{2}$,
$AD = 4\sqrt{2}$, $BC = 5$, $\alpha = 45°$.

Задача D-34.28. *Слявин Ярослав*



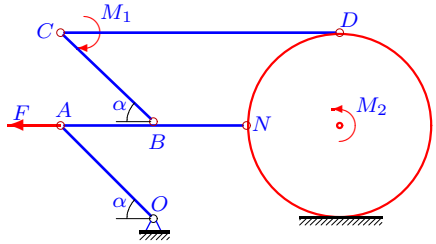
$M_1 = 96$, $M_2 = 156$, $R = 5$, $OA = 2\sqrt{2}$,
$AK = 8$, $BK = 3$, $KN = 5$, $CD = 3$, $\alpha = 45°$.

Задача D-34.29. *Сюлюкин Кирилл*



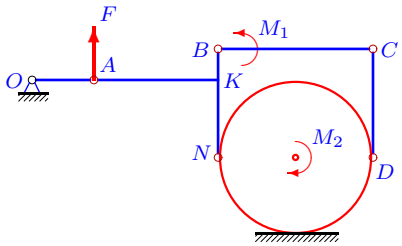
$M_1 = 80$, $M_2 = 167$, $R = 7$, $OA = 7$,
$AB = 8\sqrt{2}$, $AD = 14$, $\alpha = 45°$.

Задача D-34.30. *Хачалов Магомед*



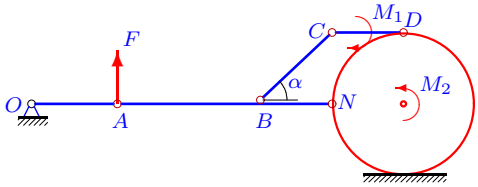
$M_1 = 102$, $M_2 = 124$, $R = 7$, $OA = 7\sqrt{2}$,
$AB = 7$, $BN = 7$, $BC = 7\sqrt{2}$, $CD = 21$, α=45°

Задача D-34.31. *Чаймелов Андрей*



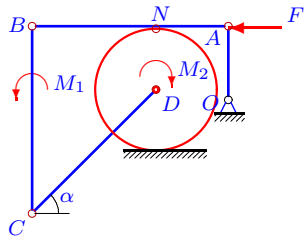
$M_1 = 44$, $M_2 = 56$, $R = 5$, $OA = 4$,
$AK = 8$, $BK = 2$, $KN = 5$, $CD = 7$.

Задача D-34.32. *Чумаков Иван*



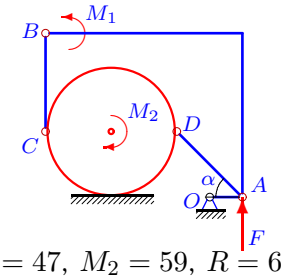
$M_1 = 150$, $M_2 = 122$, $R = 5$, $OA = 6$,
$AB = 10$, $BN = 5$, $BC = 5\sqrt{2}$, $CD = 5$, α=45°

Задача D-34.33. *Шубин Станислав*



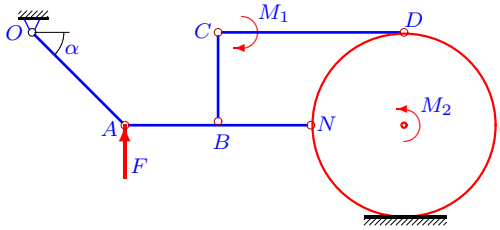
$M_1 = 483$, $M_2 = 245$, $R = 6$, $OA = 7$,
$CD = 12\sqrt{2}$, $AN = 7$, $AB = 19$, $\alpha = 45°$.

Задача D-34.34. *Юшин Илья*



$M_1 = 47$, $M_2 = 59$, $R = 6$, $OA = 3$,
$AD = 6\sqrt{2}$, $BC = 9$, $\alpha = 45°$.

Задача D-34.35. *Ярилин Иван*



$M_1 = 42$, $M_2 = 41$, $R = 5$, $OA = 5\sqrt{2}$,
$AB = 5$, $BN = BC = 5$, $CD = 10$, α=45°