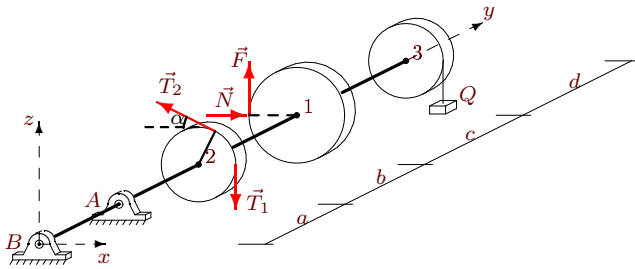


Вал

Горизонтальный вал весом G может вращаться в цилиндрических шарнирах A и B . К шкиву 1 приложено нормальное давление N и касательная сила сопротивления F , пропорциональная N . На шкив 2 действуют силы натяжения ремней T_1 и T_2 . Груз Q висит на нити, навитой на шкив 3. Определить силу давления N и реакции шарниров в условии равновесия вала. Учесть веса шкивов P_1, P_2, P_3 . Все нагрузки действуют в вертикальной плоскости. Силы даны в ньютонах, размеры — в сантиметрах.

Кирсанов М.Н. **Решебник. Теоретическая механика**/Под ред. А. И. Кириллова.— М.: ФИЗМАТЛИТ, 2008. — 384 с. (с.94.)

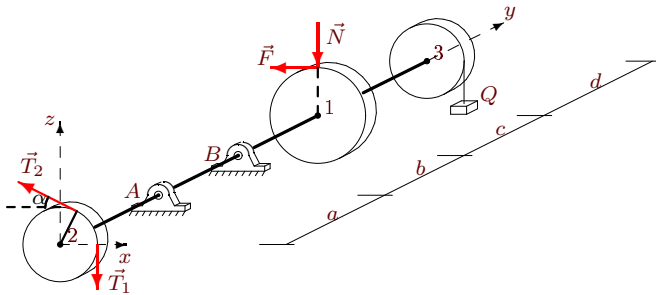
Задача S-17.1.



Аленичкин Александр

$F = 0.3N, T_1 = 40,$
 $T_2 = 76, P_1 = 20,$
 $P_2 = 10, P_3 = 18,$
 $Q = 22, G = 20,$
 $\alpha = 30^\circ, R_1 = 14,$
 $R_2 = 8, R_3 = 10,$
 $a = 24, b = 28,$
 $c = 29, d = 25.$

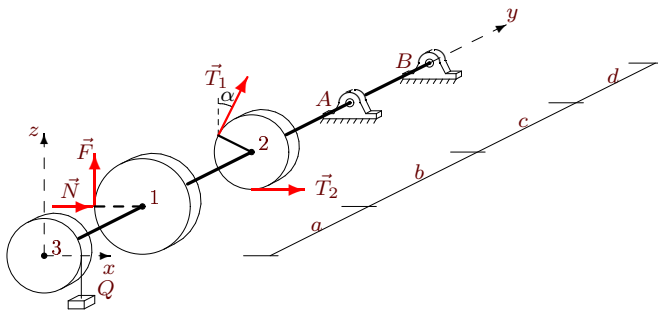
Задача S-17.2.



Белый Алексей

$F = 0.1N, T_1 = 50,$
 $T_2 = 26, P_1 = 16,$
 $P_2 = 10, P_3 = 14,$
 $Q = 10, G = 25,$
 $\alpha = 30^\circ, R_1 = 14,$
 $R_2 = 8, R_3 = 9,$
 $a = 22, b = 23,$
 $c = 24, d = 23.$

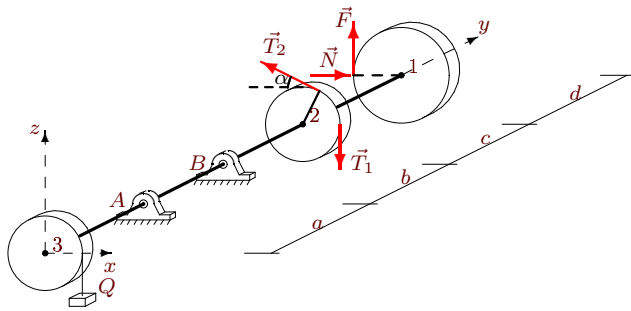
Задача S-17.3.



Бирюков Антон

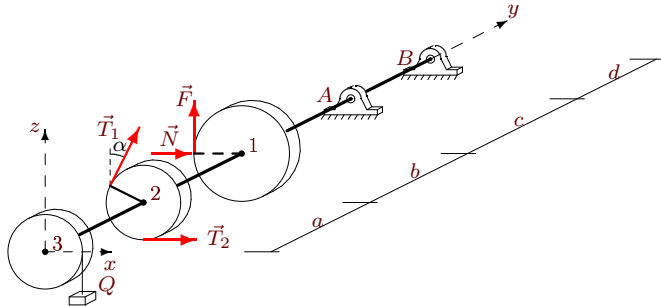
$F = 0.2N, T_1 = 70,$
 $T_2 = 137, P_1 = 42,$
 $P_2 = 30, P_3 = 34,$
 $Q = 18, G = 35,$
 $\alpha = 60^\circ, R_1 = 30,$
 $R_2 = 12, R_3 = 13,$
 $a = 22, b = 25,$
 $c = 28, d = 26.$

Задача S-17.4.



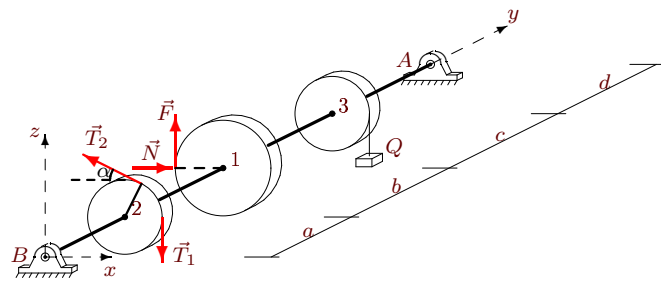
Боржов Роман
 $F = 0.4N, T_1 = 70,$
 $T_2 = 136, P_1 = 20,$
 $P_2 = 10, P_3 = 18,$
 $Q = 22, G = 35,$
 $\alpha = 30^\circ, R_1 = 14,$
 $R_2 = 8, R_3 = 10,$
 $a = 24, b = 28,$
 $c = 29, d = 25.$

Задача S-17.5.



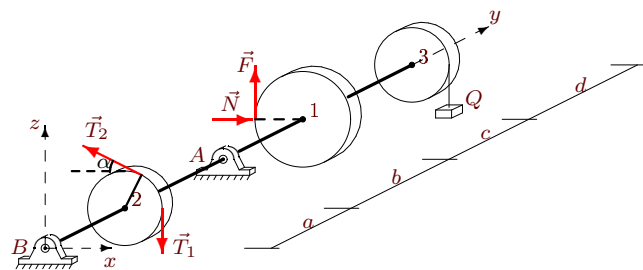
Галустов Владимир
 $F = 0.1N, T_1 = 70,$
 $T_2 = 137, P_1 = 40,$
 $P_2 = 30, P_3 = 34,$
 $Q = 18, G = 35,$
 $\alpha = 60^\circ, R_1 = 26,$
 $R_2 = 12, R_3 = 13,$
 $a = 22, b = 25,$
 $c = 28, d = 25.$

Задача S-17.6.



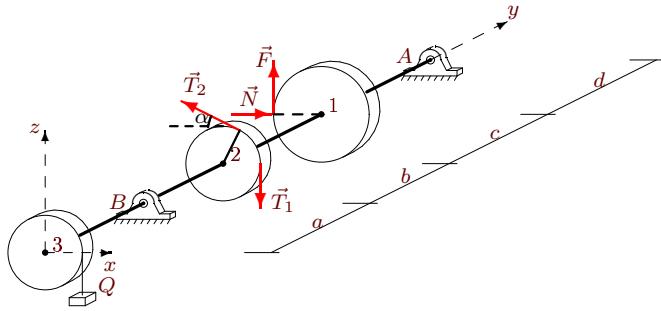
Дмитриева Марина
 $F = 0.4N, T_1 = 40,$
 $T_2 = 76, P_1 = 42,$
 $P_2 = 30, P_3 = 38,$
 $Q = 22, G = 20,$
 $\alpha = 60^\circ, R_1 = 22,$
 $R_2 = 12, R_3 = 14,$
 $a = 24, b = 28,$
 $c = 31, d = 26.$

Задача S-17.7.



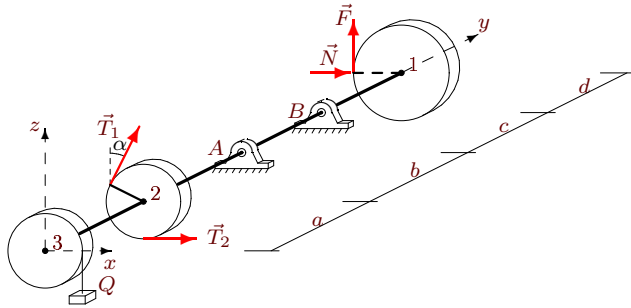
Ельникова Ирина
 $F = 0.2N, T_1 = 40,$
 $T_2 = 76, P_1 = 18,$
 $P_2 = 10, P_3 = 14,$
 $Q = 22, G = 20,$
 $\alpha = 30^\circ, R_1 = 18,$
 $R_2 = 8, R_3 = 9,$
 $a = 22, b = 26,$
 $c = 27, d = 24.$

Задача S-17.8.



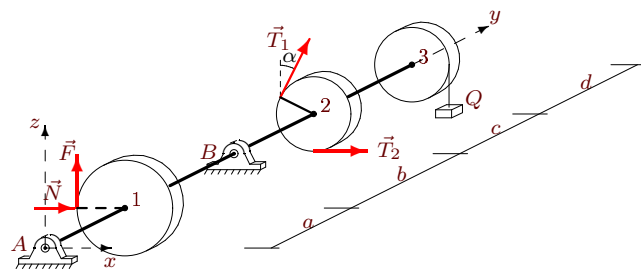
Кильдиватова Полина
 $F = 0.3N, T_1 = 70,$
 $T_2 = 137, P_1 = 42,$
 $P_2 = 30, P_3 = 38,$
 $Q = 18, G = 35,$
 $\alpha = 60^\circ, R_1 = 22,$
 $R_2 = 12, R_3 = 14,$
 $a = 24, b = 27,$
 $c = 30, d = 26.$

Задача S-17.9.



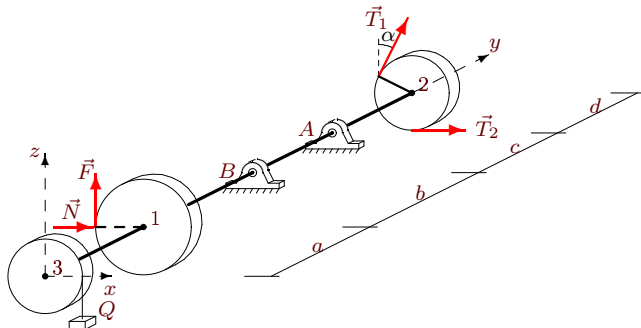
Кильчанов Сергей
 $F = 0.4N, T_1 = 70,$
 $T_2 = 138, P_1 = 24,$
 $P_2 = 10, P_3 = 18,$
 $Q = 14, G = 35,$
 $\alpha = 30^\circ, R_1 = 22,$
 $R_2 = 8, R_3 = 10,$
 $a = 24, b = 26,$
 $c = 27, d = 27.$

Задача S-17.10.



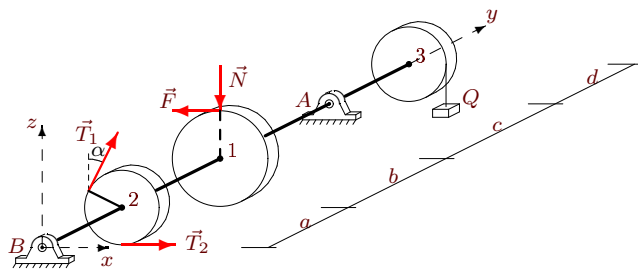
Коннов Сергей
 $F = 0.3N, T_1 = 30,$
 $T_2 = 57, P_1 = 26,$
 $P_2 = 10, P_3 = 18,$
 $Q = 18, G = 15,$
 $\alpha = 30^\circ, R_1 = 26,$
 $R_2 = 8, R_3 = 10,$
 $a = 24, b = 27,$
 $c = 28, d = 28.$

Задача S-17.11.



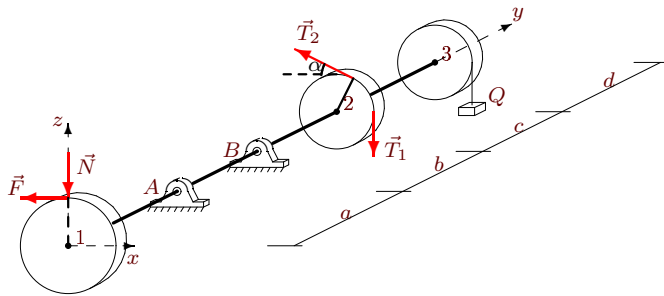
Красненко Дарья
 $F = 0.1N, T_1 = 70,$
 $T_2 = 137, P_1 = 32,$
 $P_2 = 20, P_3 = 24,$
 $Q = 18, G = 35,$
 $\alpha = 45^\circ, R_1 = 28,$
 $R_2 = 10, R_3 = 11,$
 $a = 22, b = 25,$
 $c = 27, d = 26.$

Задача S-17.12.



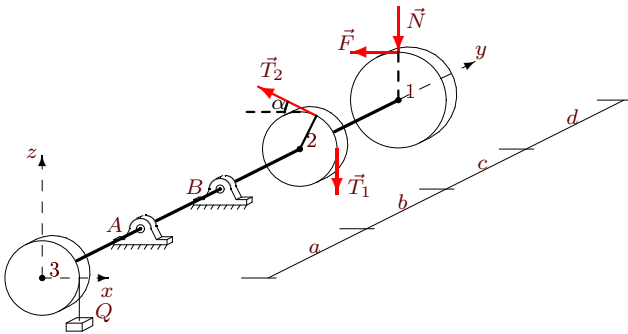
Крупинин Андрей
 $F = 0.1N$, $T_1 = 40$,
 $T_2 = 21$, $P_1 = 30$,
 $P_2 = 20$, $P_3 = 24$,
 $Q = 10$, $G = 20$,
 $\alpha = 45^\circ$, $R_1 = 24$,
 $R_2 = 10$, $R_3 = 11$,
 $a = 22$, $b = 23$,
 $c = 25$, $d = 25$.

Задача S-17.13.



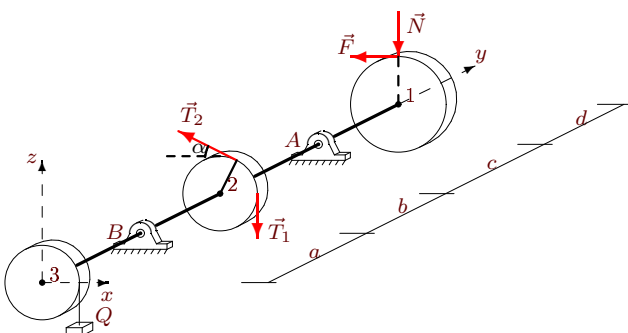
Миргасов Алексей
 $F = 0.4N$, $T_1 = 60$,
 $T_2 = 34$, $P_1 = 30$,
 $P_2 = 20$, $P_3 = 28$,
 $Q = 26$, $G = 30$,
 $\alpha = 45^\circ$, $R_1 = 16$,
 $R_2 = 10$, $R_3 = 12$,
 $a = 24$, $b = 29$,
 $c = 31$, $d = 25$.

Задача S-17.14.



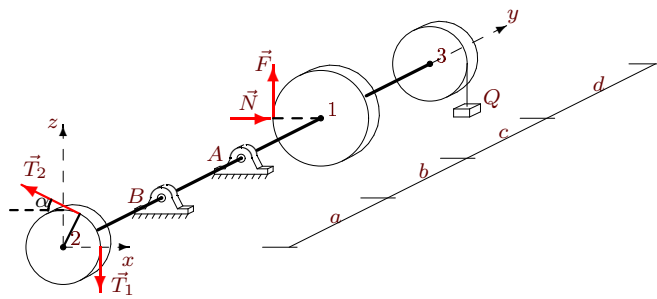
Миронова Дарья
 $F = 0.2N$, $T_1 = 70$,
 $T_2 = 37$, $P_1 = 16$,
 $P_2 = 10$, $P_3 = 14$,
 $Q = 26$, $G = 35$,
 $\alpha = 30^\circ$, $R_1 = 14$,
 $R_2 = 8$, $R_3 = 9$,
 $a = 22$, $b = 27$,
 $c = 28$, $d = 23$.

Задача S-17.15.



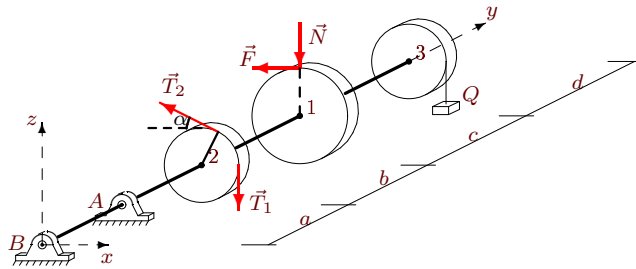
Набиев Артур
 $F = 0.2N$, $T_1 = 70$,
 $T_2 = 37$, $P_1 = 38$,
 $P_2 = 30$, $P_3 = 34$,
 $Q = 26$, $G = 35$,
 $\alpha = 60^\circ$, $R_1 = 22$,
 $R_2 = 12$, $R_3 = 13$,
 $a = 22$, $b = 27$,
 $c = 30$, $d = 24$.

Задача S-17.16.



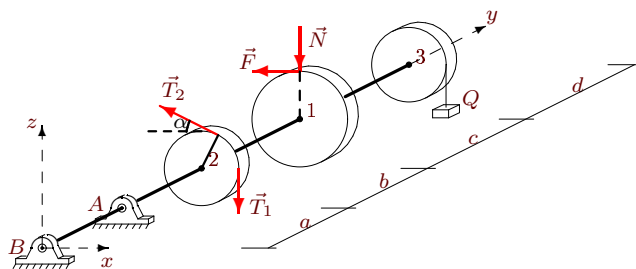
Назаренко Анастасия
 $F = 0.2N$, $T_1 = 50$,
 $T_2 = 97$, $P_1 = 18$,
 $P_2 = 10$, $P_3 = 14$,
 $Q = 18$, $G = 25$,
 $\alpha = 30^\circ$, $R_1 = 18$,
 $R_2 = 8$, $R_3 = 9$,
 $a = 22$, $b = 25$,
 $c = 26$, $d = 24$.

Задача S-17.17.



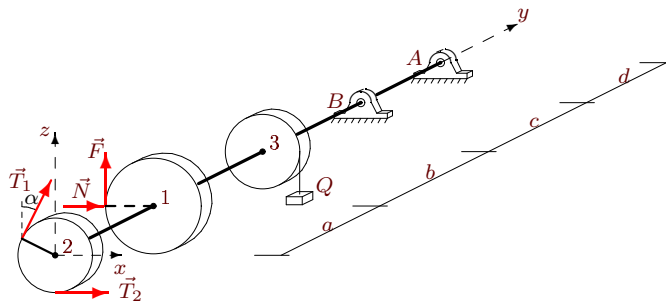
Ни Владислав
 $F = 0.3N$, $T_1 = 40$,
 $T_2 = 23$, $P_1 = 30$,
 $P_2 = 20$, $P_3 = 28$,
 $Q = 26$, $G = 20$,
 $\alpha = 45^\circ$, $R_1 = 16$,
 $R_2 = 10$, $R_3 = 12$,
 $a = 24$, $b = 29$,
 $c = 31$, $d = 25$.

Задача S-17.18.



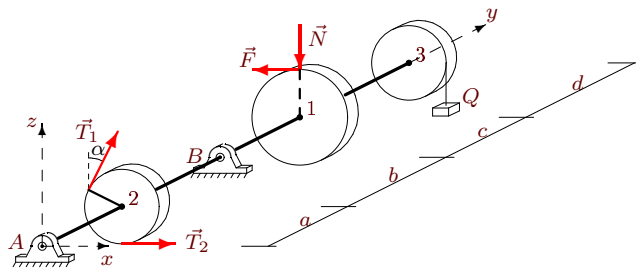
Сергеев Михаил
 $F = 0.1N$, $T_1 = 40$,
 $T_2 = 21$, $P_1 = 36$,
 $P_2 = 30$, $P_3 = 34$,
 $Q = 26$, $G = 20$,
 $\alpha = 60^\circ$, $R_1 = 18$,
 $R_2 = 12$, $R_3 = 13$,
 $a = 22$, $b = 27$,
 $c = 30$, $d = 23$.

Задача S-17.19.



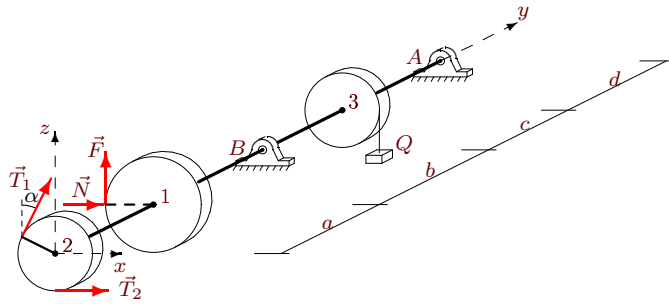
Склярченко Никита
 $F = 0.3N$, $T_1 = 50$,
 $T_2 = 98$, $P_1 = 44$,
 $P_2 = 30$, $P_3 = 38$,
 $Q = 14$, $G = 25$,
 $\alpha = 60^\circ$, $R_1 = 26$,
 $R_2 = 12$, $R_3 = 14$,
 $a = 24$, $b = 26$,
 $c = 29$, $d = 27$.

Задача S-17.20.



Филатов Иван
 $F = 0.2N$, $T_1 = 30$,
 $T_2 = 17$, $P_1 = 30$,
 $P_2 = 20$, $P_3 = 24$,
 $Q = 26$, $G = 15$,
 $\alpha = 45^\circ$, $R_1 = 24$,
 $R_2 = 10$, $R_3 = 11$,
 $a = 22$, $b = 27$,
 $c = 29$, $d = 25$.

Задача S-17.21.



Шеповаленко Ангелина
 $F = 0.4N$, $T_1 = 50$,
 $T_2 = 96$, $P_1 = 34$,
 $P_2 = 20$, $P_3 = 28$,
 $Q = 22$, $G = 25$,
 $\alpha = 45^\circ$, $R_1 = 24$,
 $R_2 = 10$, $R_3 = 12$,
 $a = 24$, $b = 28$,
 $c = 30$, $d = 27$.