Задание

**Контрольная работа № 2. Перемещения**

Для заданного варианта № 12 при размерах и нагрузке по строке 17 (табл.1), температуре и смещении опор по строке 17 (табл. 2) требуется определить перемещение в заданной преподавателем точке:

- для схемы 1 – от внешней нагрузки;

- для схемы 2 – от температурного воздействия;

- для схемы 3 – от смещения опор.



**Выбор варианта схемы.**

**Таблица 1 к контрольной работе № 2**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **№** | ***l*1,м** | ***l*2,м** | ***h*1, м** | ***h*2, м** | ***Р*1, кН** | ***Р*2, кН** | ***Р*3, кН** | ***q*1,кН/м** | ***q*2,кН/м** | ***q*3,кН/м** |
| 1 | 2 | 2 | 2 | 2 | 6 | 0 | 0 | 3 | 0 | 0 |
| 2 | 2 | 3 | 2 | 2 | 0 | 6 | 0 | 0 | 3 | 0 |
| 3 | 2 | 4 | 4 | 2 | 0 | 0 | 6 | 0 | 0 | 3 |
| 4 | 3 | 2 | 2 | 3 | 9 | 0 | 0 | 3 | 0 | 0 |
| 5 | 3 | 4 | 3 | 2 | 0 | 9 | 0 | 0 | 3 | 0 |
| 6 | 3 | 6 | 3 | 3 | 0 | 0 | 10 | 0 | 0 | 4 |
| 7 | 3 | 3 | 4 | 6 | 0 | 0 | 9 | 0 | 0 | 3 |
| 8 | 4 | 2 | 4 | 4 | 8 | 0 | 0 | 3 | 0 | 0 |
| 9 | 4 | 3 | 6 | 8 | 0 | 8 | 0 | 0 | 3 | 0 |
| 10 | 4 | 4 | 8 | 2 | 0 | 0 | 8 | 0 | 0 | 3 |
| 11 | 4 | 6 | 3 | 4 | 10 | 0 | 0 | 1 | 0 | 0 |
| 12 | 4 | 8 | 2 | 6 | 0 | 10 | 0 | 0 | 1 | 0 |
| 13 | 6 | 2 | 4 | 4 | 0 | 0 | 10 | 0 | 0 | 1 |
| 14 | 6 | 3 | 6 | 4 | 5 | 0 | 0 | 2 | 0 | 0 |
| 15 | 6 | 4 | 4 | 6 | 0 | 5 | 0 | 0 | 2 | 0 |
| 16 | 6 | 6 | 3 | 6 | 0 | 0 | 5 | 0 | 0 | 2 |
| 17 | 6 | 8 | 6 | 4 | 4 | 0 | 0 | 1 | 0 | 0 |
| 18 | 6 | 5 | 3 | 5 | 0 | 4 | 0 | 0 | 1 | 0 |
| 19 | 8 | 3 | 4 | 3 | 0 | 0 | 4 | 0 | 0 | 1 |
| 20 | 8 | 4 | 8 | 4 | 6 | 0 | 0 | 2 | 0 | 0 |
| 21 | 8 | 6 | 3 | 4 | 0 | 6 | 0 | 0 | 2 | 0 |
| 22 | 8 | 8 | 6 | 3 | 0 | 0 | 6 | 0 | 0 | 2 |
| 23 | 2 | 6 | 2 | 3 | 10 | 0 | 0 | 2 | 0 | 0 |
| 24 | 3 | 8 | 4 | 4 | 0 | 10 | 0 | 0 | 2 | 0 |
| 25 | 5 | 2 | 2 | 5 | 0 | 0 | 10 | 0 | 0 | 2 |
| 26 | 5 | 3 | 3 | 3 | 12 | 0 | 0 | 3 | 0 | 0 |
| 27 | 5 | 4 | 4 | 5 | 0 | 12 | 0 | 0 | 3 | 0 |
| 28 | 5 | 5 | 2 | 4 | 0 | 0 | 12 | 0 | 0 | 3 |
| 29 | 5 | 6 | 6 | 6 | 8 | 0 | 0 | 1 | 0 | 0 |
| 30 | 2 | 5 | 5 | 2 | 0 | 8 | 0 | 0 | 1 | 0 |

**Таблица 2 к контрольной работе № 2**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **№** | ***t*1,0С** | ***t*2, 0C** | ***t*3, 0C** | ***t*4, 0C** | ***t*5,0C** | ***C1******\*10-3*** | ***C2******\*10-3*** | ***α*** |
| 1 | 10 | -10 | 20 | 0 | 0 | 1 | 1 | 1 |
| 2 | 10 | 0 | 20 | -10 | 0 | 2 | 1 | 1 |
| 3 | 10 | 0 | 0 | 20 | -10 | 1 | 2 | 1 |
| 4 | 0 | 10 | -10 | 0 | 20 | 1 | 1 | 2 |
| 5 | 0 | 20 | 0 | -10 | 10 | 1 | 2 | 2 |
| 6 | -10 | 10 | 0 | 0 | 20 | 2 | 1 | 2 |
| 7 | 20 | -10 | 0 | 10 | 0 | 3 | 1 | 1 |
| 8 | -10 | 0 | 20 | 0 | 10 | 1 | 3 | 1 |
| 9 | -40 | 0 | 0 | -20 | 20 | 1 | 1 | 3 |
| 10 | 20 | -40 | 0 | 0 | -20 | 3 | 2 | 1 |
| 11 | -20 | 0 | -40 | 0 | 20 | 2 | 3 | 1 |
| 12 | -40 | 20 | 0 | 0 | -20 | 2 | 1 | 3 |
| 13 | -40 | 0 | -20 | 20 | 0 | 3 | 1 | 1 |
| 14 | 20 | -20 | -40 | 0 | 0 | 1 | 3 | 1 |
| 15 | 0 | -20 | 20 | 0 | -40 | 1 | 2 | 3 |
| 16 | 20 | 0 | -20 | -40 | 0 | 3 | 2 | 1 |
| 17 | -30 | 10 | 0 | 20 | 0 | 2 | 3 | 1 |
| 18 | 10 | 0 | -30 | 0 | 20 | 2 | 2 | 3 |
| 19 | 0 | -30 | 10 | 20 | 0 | 3 | 1 | 1 |
| 20 | 0 | 10 | 20 | 0 | -30 | 1 | 3 | 1 |
| 21 | 20 | 0 | 10 | -30 | 0 | 3 | 3 | 2 |
| 22 | -30 | 0 | 10 | 0 | 20 | 2 | 3 | 3 |
| 23 | 0 | 10 | 20 | -30 | 0 | 3 | 2 | 3 |
| 24 | 10 | 0 | 20 | 0 | -30 | 3 | 1 | 3 |
| 25 | 40 | 0 | 20 | 0 | -10 | 3 | 3 | 1 |
| 26 | 0 | 40 | 0 | 20 | -10 | 1 | 3 | 3 |
| 27 | 0 | 40 | -10 | 0 | 20 | 1 | 1 | 3 |
| 28 | -10 | 0 | 40 | 20 | 0 | 4 | 2 | 2 |
| 29 | 20 | 0 | -10 | 0 | 40 | 2 | 4 | 3 |
| 30 | 20 | -10 | 0 | 40 | 0 | 3 | 1 | 4 |
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