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MTE 204 – Project 1a Submission Document
Group #1
Name Student 1: Name    ID: 20XXXXXX
Name Student 2: Name    ID: 20XXXXXX
Name Student 3: Name    ID: 20XXXXXX
Name Student 4: Name    ID: 20XXXXXX


///************************************************
/// SOLUTIONS TO GROUP Problem 1a – 2014
///************************************************
/// Calculated Forces (N)
FA = 490.0000000000, FB = 280.0000000000
FC = 310.0000000000, FD = 760.0000000000

/// NODAL POSITIONS (mm)
U1x = 0.0000000000, U1y = 0.0000000000
U2x = 0.0001750021, U2y = −0.0008847576
U3x = 0.0004900041, U3y = 0.0000000000
U4x = 0.0022048727, U4y = −0.0004647699

/// NODAL FORCES (Newtons)
F1x = −350.00000000 , F1y = −303.09644350
F2x = −140.00000000 , F2y = −242.48711300
F3x = 0.00000000 , F3y = 545.58355650
F4x = 490.00000000 , F4y = 0.00000000

/// Element Stresses (MPa)
/// ID, Node 1, Node 2, STRESS[MPa]
----------------------------------------------------------
1, 1, 2, 0.07000082 [Tension]
2, 2, 3, 0.12600082 [Tension]
3, 1, 4, 0.13999528 [Tension]
4, 3, 4, 0.25199610 [Compression]
5, 2, 4, 0.09699485 [Tension]

///************************************************
/// SOLUTIONS TO Problem 1b – 2014
///************************************************
/// FORCES (N)
FA = 490.0000000000, FB = 280.0000000000
FC = 310.0000000000, FD = 760.0000000000

/// NODAL POSITIONS (mm)
U1x = −0.0000571910, U1y = 0.0000000000
U2x = 0.0000000000, U2y = 0.0000000000
U3x = −0.0006928870, U3y = 0.0007425734
U4x = −0.0004020008, U4y = 0.0000000000
U5x = 0.0000000000, U5y = 0.0000000000
U6x = −0.0001429040, U6y = −0.0000825843
U7x = −0.0031398969, U7y = 0.0018133751
U8x = −0.0006490225, U8y = 0.0001146434
U9x = −0.0012011378, U9y = 0.0004620623
U10x = −0.0041541121, U10y = 0.0020984979
U11x = −0.0026920551, U11y = 0.0007588097


/// NODAL FORCES (Newtons)
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F1x = 0.00000000 , F1y = 49.52743258
F2x = 374.91389822 , F2y = -212.06784471
F3x = -173.20508100 , F3y = -100.00000000
F4x = 0.00000000 , F4y = -173.35069950
F5x = 451.19563778 , F5y = -433.33814937
F6x = 0.00000000 , F6y = 0.00000000
F7x = -0.00000000 , F7y = 0.00000000
F8x = -70.71067800 , F8y = 70.71067800
F9x = -0.00000000 , F9y = -0.00000000
F10x = -582.19377700 , F10y = 488.51858300
F11x = -0.00000000 , F11y = 310.00000000

/// Element Stresses (MPa)
/// ID, Node 1, Node 2, STRESS[MPa]
----------------------------------------------------
1, 1, 2, 0.01143821 [Tension]
2, 1, 6, 0.02287591 [Compression]
3, 2, 6, 0.00001320 [Compression]
4, 2, 3, 0.13857739 [Compression]
5, 2, 7, 0.00008688 [Tension]
6, 6, 10, 0.02288251 [Compression]
7, 7, 10, 0.15060743 [Tension]
8, 10, 11, 0.14620570 [Tension]
9, 3, 8, 0.10437561 [Compression]
10, 8, 4, 0.04456037 [Tension]
11, 3, 4, 0.05817723 [Tension]
12, 11, 9, 0.20020956 [Tension]
13, 11, 8, 0.09244869 [Compression]
14, 4, 9, 0.00011549 [Tension]
15, 4, 5, 0.08040016 [Tension]
16, 5, 9, 0.20015179 [Tension]
17, 2, 10, 0.08476333 [Tension]
18, 3, 7, 0.15056397 [Tension]
19, 4, 11, 0.03065013 [Tension]
```