**Question 1**

|  |  |  |
| --- | --- | --- |
| **Operation** | ddd.dd System | .ddd\* System |
| (260 + 1.27) + 0.1 | R(261.27) + 0.1  261.27 + 0.1  R(261.37)  261.37 | R(.26127\*) + .1\*  .261\*10^3 + .1\*  R(.2611\*)  .261\* |
| 260 + (1.27 + 0.1) | 260 + R(1.37)  260 + 1.37  R(261.37)  261.37 | .26\*10^3 + R(.137\*)  .26\*10^3 + .137\*  R(.26137\*)  .261\* |
| 3.08 \* 0.1 | R(0.308)  000.31 | R(.308\*)  .308\* |
| 3.08 \* 0.01 | R(0.0308)  000.03 | R(.308\*)  .308\* |
| -900 - 100 | R(-1000)  OVERFLOW | R(-.1\*)  -.1\* |

**Range of representable numbers:**

|  |  |
| --- | --- |
| ddd.dd System | .ddd\* System |
| [-999.99, -000.01] U {0} U [000.01, 999.99] | [-.999\*, -.100\*] U {0} U [.100\*, .999\*] |

**Range of numbers for which underflow occurs:**

|  |  |
| --- | --- |
| ddd.dd System | .ddd\* System |
| (-000.01, 0) U (0, 000.01) | (-.100\*, 0) U (0, .100\*) |