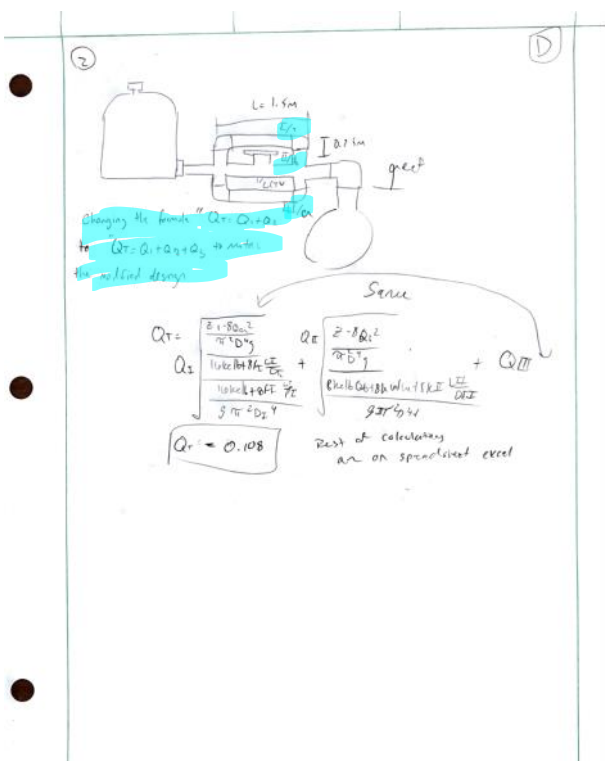




1) a.  $1/8$   
b.  $2/8$   
c.  $2/8$   
d.  $2/8$   
e.  $0/8$   
total:  $7/8$

2)

- a.  $1/6$
- b.  $1/6$
- c.  $0/6$
- d.  $1/6$
- e.  $1/6$
- f.  $0/6$

total:  $4/6$

$$(45) (0.875 + 0.667)$$

69.4%

Final grade

|             |          |  |     |          |          |          |           |          |          |          |          |        |         |  |
|-------------|----------|--|-----|----------|----------|----------|-----------|----------|----------|----------|----------|--------|---------|--|
| 1)          |          |  |     |          |          |          |           |          |          |          |          |        |         |  |
| Values      |          |  |     |          |          |          |           |          |          |          |          |        |         |  |
| E           | 4.60E-05 |  |     |          |          |          |           |          |          |          |          |        |         |  |
| L1          | 1.5      |  |     |          |          |          |           |          |          |          |          |        |         |  |
| L2          | 2.25     |  |     | Qt(m3/s) | Q1 (num) | Q1 (dec) | Q1 (m3/s) | Q2 (num) | Q2 (den) | Q2(m3/s) | RHS      | LHS    | RHS-LHS |  |
| h           | 3.65     |  |     | 0.0667   | 2.50E-01 | 1.46E+02 | 0.041437  | 2.50E-01 | 3.95E+02 | 0.02514  | 0.066577 | 0.0667 | 0%      |  |
| k valve 1/2 | 48.8     |  |     |          |          |          |           |          |          |          |          |        |         |  |
| k elbow     | 9.1      |  |     |          |          |          |           |          |          |          |          |        |         |  |
| D           | 9.01E-02 |  |     |          |          |          |           |          |          |          |          |        |         |  |
| kentrance   | 0.5      |  |     | ft       |          |          |           | ANSWER   | 0.0667   |          |          |        |         |  |
| g           | 9.81     |  | D/E | 1.96E+03 |          |          |           |          |          |          |          |        |         |  |
| ft          | 8.42E-03 |  |     | 9.18E-02 |          |          |           |          |          |          |          |        |         |  |
| z           | 0.25     |  |     | 8.42E-03 |          |          |           |          |          |          |          |        |         |  |

|     |          |          |          |           |          |          |          |          |          |            |             |       |         |  |
|-----|----------|----------|----------|-----------|----------|----------|----------|----------|----------|------------|-------------|-------|---------|--|
| 2)  |          |          |          |           |          |          |          |          |          |            |             |       |         |  |
|     |          |          |          |           |          |          |          |          |          |            |             |       |         |  |
|     |          |          |          |           |          |          |          |          |          |            |             |       |         |  |
|     | Qt(m3/s) | Q1 (num) | Q1 (dec) | Q1 (m3/s) | Q2 (num) | Q2 (den) | Q2(m3/s) | Q3 (num) | Q3 (dec) | Q3 (m3/s)  | RHS         | LHS   | RHS-LHS |  |
|     | 0.108    | 2.50E-01 | 1.46E+02 | 0.041437  | 2.50E-01 | 3.98E+02 | 0.025045 | 2.50E-01 | 1.46E+02 | 0.04143709 | 0.107919205 | 0.108 | 0%      |  |
|     |          |          |          |           |          |          |          |          |          |            |             |       |         |  |
|     |          |          |          |           |          |          |          |          |          |            |             |       |         |  |
|     |          |          |          |           |          |          |          |          |          |            |             |       |         |  |
|     | ft       |          |          |           |          |          | ANSWER   | 0.108    |          |            |             |       |         |  |
| D/E | 1.96E+03 |          |          |           |          |          |          |          |          |            |             |       |         |  |
|     | 9.18E-02 |          |          |           |          |          |          |          |          |            |             |       |         |  |
|     | 8.42E-03 |          |          |           |          |          |          |          |          |            |             |       |         |  |