In [10]:
```
from numpy import log
from scipy.optimize import fsolve

conductivity = 0.70
heat_capacity = 4190000
sed_temp_shallow = 25.36
sed_temp_mid = 16.11
sed_temp_const = 12.98
shallow_mid_dist = 0.45

expected = 0.0441
```

In [11]:
```
qz = -86400 * (conductivity / (heat_capacity * shallow_mid_dist)) * log((sed_temp_mid - sed_temp

print(f"Expected: {expected}")
print(f"Actual:   {qz}")
```

```
Expected: 0.0441
Actual:   0.04410659210202143
```

In [ ]: