

Answers Problem Sets 4 & 5

4.1 (a) $2.4 \times 10^{-3b} \text{ m}^2/\text{sec}$

(b) $r = 2\text{m}$

(c) $r = 1.4 \text{ m}$

4.2

(a) $k = 8640 \text{ m}^2/\text{sec}$

(b) $1.8 \times 10^{-9} \text{ \#/m}^2 = 1.8 \times 10^{-3} \text{ \#/km}^2$

(c) 273km

4.3 (a) 5m, 5m, 6.4, 9m

(b) 100m, 100m, 116m, 2000m

(c) $t = 20 \text{ minutes}$

5.2

(a) 0

(b) $7 \times 10^{-3} \text{ m/sec}$

(c) .01 m/sec

5.3

(a) 5 m/sec

(b) 3.75 m/sec

(c) 0

5.4

.25 N/m² , .016m/sec

5.5

(a) .25 N/m²

(b) .5 m/sec

(c) .016m/sec

(d) .25 N/m²

(e) .25 sec⁻¹

5.6

(a) $T = 20 - (D-z) \cdot .46$ oC/m

(b) do problem