Math 126 Section 101 - Homework 4

Section 9.4, questions $20 - 28$(evens only), 19

Additionally, for question 19, answer:
"If the company has 80 employees and has $\$750,000$ worth of equipment, what ratio of new employees to new equipment should they invest in, in order to maximize production?"

Section 9.5, questions $2, 6 - 12, 20$ (evens only)
Section 9.6, questions $2 - 8, 12, 14$(evens only), 15

Extra Question: A heater is placed in a room (at coordinates $(0,0)$). After 30 minutes, the temperature at coordinates (x, y) is $T = 95e^{\frac{-x^2 - y^2}{1200}}$.

(a) When standing at $(2, 1)$, in what direction is the temperature increasing the fastest?

(b) What is $D_{(1,0)}T(2, 1)$? What is the physical interpretation of this number?