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STUDENT NAME	STUDENT ID	MARKS

YOU ARE GIVEN 30 MINUTES TO FINISH ALL QUESTIONS; PLEASE SHOW ALL YOUR WORK TO GET FULL CREDITS.

- [2] 1. (a) Find the x -intercept of the line $2x + 3y = 6$.
- [2] (b) Find the slope of the line through the points $(1, -2)$ and $(9, 6)$.
- [3] (c) Find the equation of the line that passes through the point $(1, -2)$ and is parallel to $3x + y = 7$.
2. Let $f(x) = -2x + 8$. Find
- [2] (a) the value of $f(2)$.
- [2] (b) the values of x such that $f(x) > 0$.

- [4] 3. Let the supply and demand functions for strawberry flavored licorice be given by

$$p = S(q) = \frac{3}{2}q \quad \text{and} \quad p = D(q) = 81 - \frac{3}{4}q$$

where p is the price in dollars and q is the number of batches, respectively. Find the equilibrium quantity and equilibrium price.

4. Producing x units of tacos costs $C(x) = 5x + 20$ and the revenue function is $R(x) = 15x$, where $C(x)$ and $R(x)$ are in dollars.

- [3] (a) What is the break-even quantity?

- [2] (b) What is the average cost function $\overline{C}(x)$?

- [2] (c) What is the profit function $P(x)$?

- [1] (d) What is the profit from 100 units?

- [2] (e) How many units will produce a profit of \$500?