

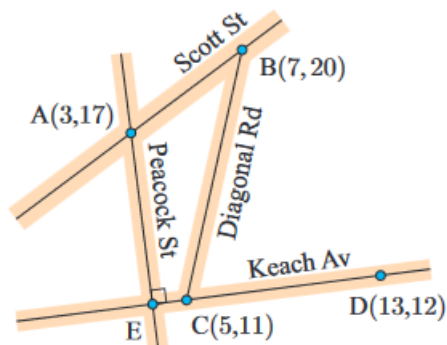
ALGEBRA 2
PROBLEM SET #8

DUE DATE: SEPTEMBER 21, 2023

Question 1 (§3.2 #43). Suppose you have a part time job delivering packages. Your employer pays you a flat rate of \$9.50 per hour. You discover that a competitor pays \$2 per hour plus \$3 per delivery.

- (a) How can you write a system of equations to model the situation?
- (b) How many deliveries would the competitor's employees have to make in 4 hours to earn the same pay you would earn in a 4 hour shift?

Question 2. A is the town hall on Scott Street and D is a Post Office on Keach Avenue. Diagonal Road intersects Scott Street at B and Keach Avenue at C .



- (a) Find the equation of Keach Avenue.
- (b) Find the equation of Peacock street.
- (c) Find the equation of Diagonal Road (be careful!)

- (d) Parallel Street is not on the map but is parallel to Keach Avenue but goes through A .
What is the equation of Parallel Street?

Question 3. Let ℓ be the line that passes through the points $(2, 3)$ and $(6, 8)$.

- (a) Find the line equation of ℓ :
- (b) Is the point $(1, 2)$ on the line ℓ ?
- (c) Find the line that is parallel to ℓ and passes through $(-15, 0)$.
- (d) Find the line that is perpendicular to ℓ and passes through $(-13, 0)$.