

ALGEBRA 2
PROBLEM SET #9

DUE DATE: NOT DUE...BUT QUIZ ON MONDAY!

Question 1. Let ℓ be the line that passes through the points $(-3, 1)$ and $(1, -3)$.

- (a) Find the line equation of ℓ :
- (b) Is the point $(2, 0)$ on the line ℓ ?
- (c) Find the line that is parallel to ℓ and passes through $(-3, 0)$.
- (d) Find the line that is perpendicular to ℓ and passes through $(-3, 0)$.

Question 2. Let ℓ_1 and ℓ_2 be two lines given by the following descriptions:

- ℓ_1 passes through the points $(-4, 7)$ and $(2, 10)$
 - ℓ_2 has slope of 2 and passes through $(0, 1)$.
- (a) Are ℓ_1 and ℓ_2 parallel? If not, where do they intersect? (Hint: write each in the form $y = mx + b$).
 - (b) Are ℓ_1 and ℓ_2 perpendicular to each other?