

MATH 2415 Test 1 Name: _____

1. Consider the triangle $\triangle ABC$ with vertices $A = (0, 0, 0)$, $B = (3, 4, 0)$, and $C = (5, 5, 5)$.
Answer some of the questions below about $\triangle ABC$ and circle TWO questions for grading.

- (i) What is its perimeter?
- (ii) What is its area?
- (iii) What is the angle between \vec{BA} and \vec{BC} ?

2. Consider the plane P defined by $2x + y + z = 1$ and the line L defined by $\vec{r} = \langle -4t, 5t - 6, t \rangle$, $t \in \mathbb{R}$.

Solve some of the problems (i)-(ii) about P and L and circle ONE of them for grading.

- (i) Find the angle of incidence between P and L .
- (ii) Give a parametric representation of P .

Solve some of the problems (iii)-(iv) about P and L and circle ONE of them for grading.

- (iii) Find the distance from $(5, 5, 5)$ to L .
- (iv) Find the distance from $(5, 5, 5)$ to P .