

Send the task to: kmwr@o2.pl. The safest format is .pdf

Total time for the test: 13 minutes

1. Let  $\vec{u} = [p, 4, 1]$  and  $\vec{v} = [p - 1, q, 3]$ .

a) Find all  $p, q$  for which  $\vec{u} \parallel \vec{v}$ .

b) For  $p = q = -1$  find, to the nearest degree, the angle between  $\vec{u}$  and  $\vec{v}$ .

(7p)

2. A plane contains 3 points:  $A = (1, 1, 2)$ ,  $B = (0, -2, -1)$  and  $C = (2, -1, 1)$ . Find an equation of this plane in

a) cartesian form,

b) parametric form.

(6p)