



King Saud University – Muzahimiah Branch

Faculty of Information Technology and Computer Sciences

Home Work (1)

Due Date : Wednesday 12/11/2014

Hand solution to Teaching Assistant: Eng. Mohammed Ashraf

Question 1:

If the rectangular coordinates of a point are given by $(2, y)$ and its polar coordinates are $(r, 30^\circ)$, determine y and r .

Question 2:

A plane flies from base camp to lake A, 280 km away, in a direction of 20° north of east. After dropping off supplies it flies to lake B, which is 190 km at 30° west of north from lake A. Graphically determine the distance and direction from lake B to the base camp.

Question 3:

A force \mathbf{F}_1 of magnitude 6.00 units acts at the origin in a direction 30.0° above the positive x axis. A second force \mathbf{F}_2 of magnitude 5.00 units acts at the origin in the direction of the positive y axis. Find graphically the magnitude and direction of the resultant force $\mathbf{F}_1 + \mathbf{F}_2$.

Question 4:

Each of the displacement vectors \mathbf{A} and \mathbf{B} shown in Figure below has a magnitude of 3.00 m. Find graphically

(a) $\mathbf{A} + \mathbf{B}$, (b) $\mathbf{A} - \mathbf{B}$, (c) $\mathbf{B} - \mathbf{A}$, (d) $\mathbf{A} - 2\mathbf{B}$. Report all angles counterclockwise from the positive x axis.

