

Phys11 Vectors : Worksheet-20

1) Given : $\mathbf{A} = [4.0 , 2.0]$ and $\mathbf{B} = [-6.0 , 5.0]$. Find the following.

a) The magnitude (length) of $\mathbf{A} =$ _____

b) The magnitude of $\mathbf{B} =$ _____

c) $B_x =$ _____ , $B_y =$ _____ , $A_x =$ _____ , $A_y =$ _____

d) $-\mathbf{A} = [\quad , \quad]$, $-\mathbf{B} = [\quad , \quad]$

e) $\mathbf{A} + \mathbf{B} = [\quad , \quad]$, $\mathbf{A} - \mathbf{B} = [\quad , \quad]$, $\mathbf{B} - \mathbf{A} = [\quad , \quad]$

f) $3\mathbf{A} + 2\mathbf{B} = [\quad , \quad]$

2)a) The angle between vector \mathbf{A} and the x - axis is _____

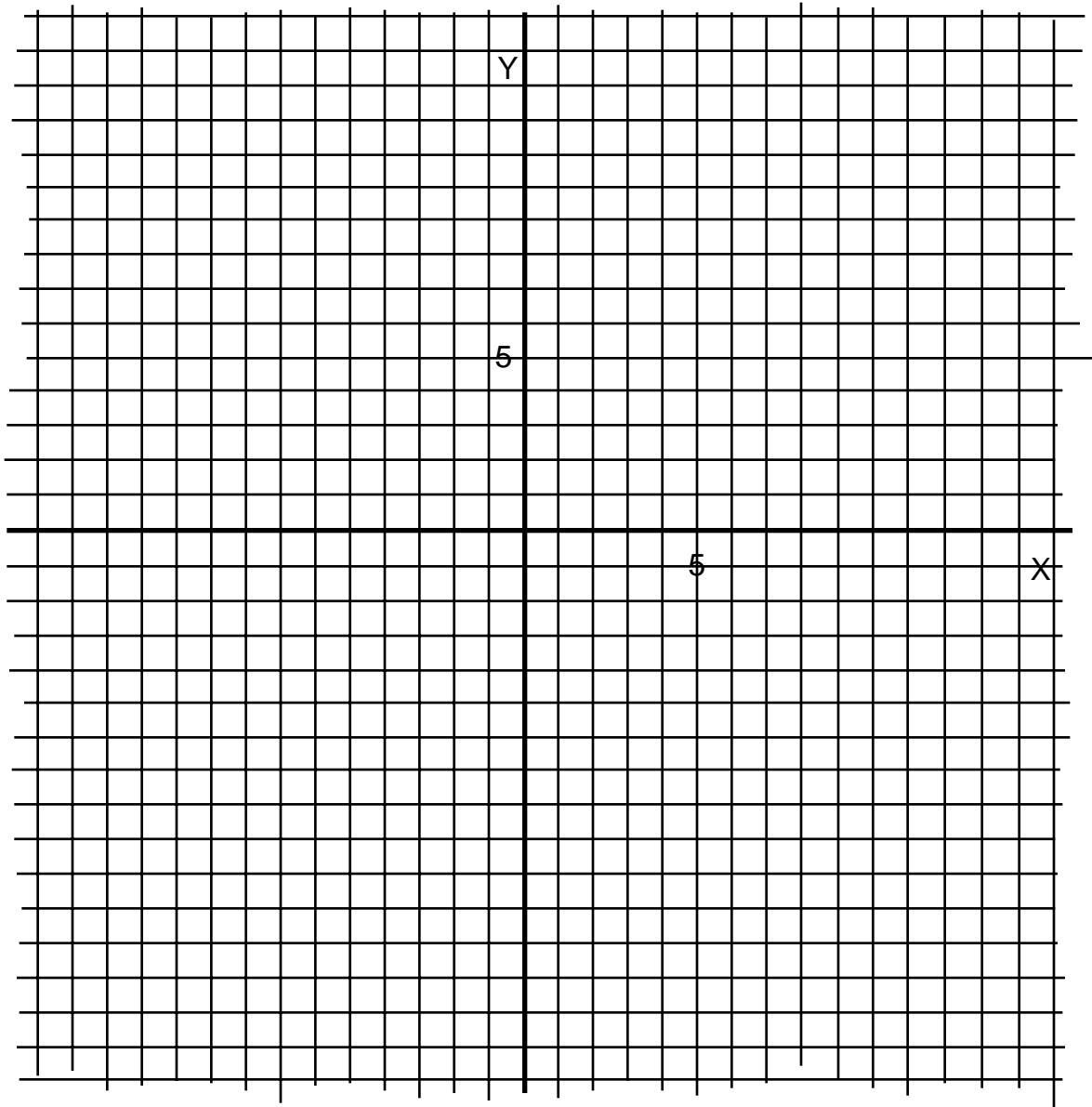
b) The angle between vector \mathbf{B} and the x - axis is _____

c) Write in the alternative form.

$\mathbf{A} =$ _____ [_____° _____ of _____]

$\mathbf{B} =$ _____ [_____° _____ of _____]

3) Show the vectors ; \mathbf{A} , \mathbf{B} , $\mathbf{A} - \mathbf{B}$, $\mathbf{A} + \mathbf{B}$, $3\mathbf{A} + 2\mathbf{B}$ on the grid below.



Answers : 1)a) 4.5, b) 7.8, c) -6.0, 5.0, 4.0, 2.0, d) [-4.0,-2.0], [6.0,-5.0], e) [-2.0,7.0], [10.0,-3.0], [-10.0,3.0], f) [0.0,16.0], 2)a) 27° , b) 40° , c) 4.5 [27° N of E], 7.8 [40° N of W].

