Advanced Engineering Mathematics, by Erwin Kreyszig 10th. Ed.

**Problem Set 9.1**

No. 1









No. 2









No. 3









No. 4









No. 5









No.6

 Initial point

Terminal point, 



No. 7

 Initial point

Terminal point, 



No. 8

 Initial point

Terminal point, 



No. 9

 Initial point

Terminal point, 



No.10

 Initial point

Terminal point, 



11-18

   

No.11







No.12





No.13



 

No.14













No.15





 



No.16

 



 





No.17



 



No.18

 



 



No.19

Prob.12: Associativity.

Prob.13: Community.

Prob.14: Scalar multiplication.

Prob.15: Scalar multiplication.

Prob.16: Scalar multiplication.

No.20















































No.21





The magnitude is 

No.22







The magnitude is 

No.23



Find the resultant, The magnitude is

No.24



Magnitude 

No.25



Find the resultant, The magnitude is

No.26

In equilibrium



No.27

In equilibrium  

No.28





Magnitude 

Unit vector

No.29



If the resultant is parallel to the xy-plane, the z componentmust be zero

No.30





If the resultant has no component in x- and y-directions, and 



No.31



If the resultant is parallel to the xy-plane, the z component



No.32

If and are anti-parallel the magnitude isand iswhen they are parallel.



Nothing about the direction

No.33

If is parallel withand, the magnitude isand iswhen they are all in the same direction.



Nothing about the direction

No.34

 y

x



 



No.35

y 

 x

 



No.36

y

3

2

1

The incoming ray: vector 1 

The first reflected ray: vector 2

The second reflected ray: vector 3

The reflected ray is parallel to the incident ray with the direction reversed.

No.37

y 



 

Problem Set 9.2

No.38

