202 MATH

EXERCISES

Chapter 9:- Parametric equations and polar coordinates

9.1 Parametric equations:-

1, 3, 5, 8, 10, 12, 15, 18, 21, 27

9.2 Arc length and surface area:-

3, 5, 6, 7, 10, 12, 15, 22, 24, 31, 33, 36, 37

9.3 Polar coordinates:-

2, 8, 9, 12, 13, 16, 18, 20, 30, 33, 35, 39, 41, 43, 45, 48, 53, 55, 62, 63, 65

9.4 Integrals in polar coordinates:-

1, 5, 6, 21, 25, 26, 27, 29

Chapter 10:- Vectors and surfaces

10.1 Vectors in two dimensions:-

3, 6, 11, 22, 25, 28, 29, 32, 33, 43

10.2 Vectors in three dimensions:-

3, 6, 9, 14, 16, 17, 20, 24, 26, 27,28, 30

10.3 The dot product:-

5, 8, 13, 16, 18, 23, 43  52

10.4 The vector product:-

6, 9, 12, 14, 17, 20, 21, 23, 25, 27, 32  37

10.5 Lines and planes:-

4, 8, 10, 13, 16, 17, 19, 23, 25, 28, 29, 33, 35, 4, 45, 49, 51, 53, 55, 57, 59

Chapter 11:- Vector-Valued Functions

11.1 Definition and Graphs

1, 4, 5, 7, 13, 22, 24

11.2 Limits Derivatives and Integrals

3, 4, 6, 8, 11, 13, 15, 18, 20, 21, 24, 25, 29, 30, 32, 33, 36, 37, 46, 47, 48

11.3 Motion

1, 3, 5, 9, 13, 15, 17, 18

11.4 Curvature

4, 6, 10, 11, 15, 17, 21, 28, 31, 33, 37, 39, 41, 45

11.5 Tangential and normal components of acceleration

4, 6, 8, 9, 10, 13, 17