CALCULUS3

Q101 HW LIST

LESSON1:

Section 15.7: 1, 3, 7, 8, 9, 10

Section 15.8: 1, 3, 7, 8, 9, 10

LESSON2:

Section 12.5: 2, 5, 9, 13, 17, 23, 26, 33, 35, 43, 46, 48, 49, 54, 55, 67, 69, 73, 71

LESSON3: *SEE BELOW*

Identify and describe the surface in R^3 (include a quick sketch for a few)

1. $y^2 + 4z^2 = 4$ 2. $x = y^2 + 4z^2$ 3. $z = 4 - x^2$

4. $9x^2 - y^2 + z^2 = 0$ 5. $x^2 = y^2 + 4z^2$ 6. $25x^2 + 4y^2 + z^2 = 100$

7. $yz = 4$ 8. $-x^2 + 4y^2 - z^2 = 4$ 9. $4x^2 + 9y^2 + z = 0$

10. $36x^2 + y^2 + 36z^2 = 36$ 11. $4x^2 - 16y^2 + z^2 = 16$ 12. $y = z^2 - x^2$

13. $x - y^2 = 0$ 14. $x^2 - y^2 = 1$ 15. $x = y^2 - z^2$

16. $z = \cos x$ 17. $y^2 = x^2 + 2z^2$ 18. $x^2 - 2z^2 = 1$

19. $4x^2 + y^2 + 4z^2 - 4y - 24z + 36 = 0$

21. Sketch the region bounded by the surfaces $z = \sqrt{x^2 + y^2}$ and $x^2 + y^2 = 1$ for $1 \le z \le 2$

22. Find an equation for the surface obtained by rotating $y = x^2$ about the y-axis.

SEE NEXT PAGE FOR IDENTIFIERS AND DESCRIPTIONS

Identifiers:

Type of Cylinder

Ellipsoid

Hyperboloid of One Sheet

Hyperboloid of Two Sheets

Cone

Half-Cone

Paraboloid

Hyperbolic Paraboloid (Saddle)

Descriptions:

For a Cylinder: Ruling parallel to the _____ axis

For an Ellipsoid: Define the center and radii

For a Hyperboloid of One Sheet: tunneling about the ____ axis

For a Hyperboloid of Two Sheets: Opening in the ____ direction

For a Cone: Opening in the ____ direction

For a Half-Cone: Opening in the (positive/negative) ____ direction --- also define the vertex

For a Paraboloid: Opening in the (positive/negative) ____ direction --- also define the vertex

For a Saddle: Top head pointing in the (positive/negative) ____ direction and straddling the ____ axis