

MA 213 Worksheet #8

Section 14.1

- 1 14.1.10 Let $F(x, y) = 1 + \sqrt{4 - y^2}$.
 - (a) Evaluate $F(3, 1)$.
 - (b) Find and sketch the domain of F .
 - (c) Find the range of F .

 - 2 14.1.11 Find and describe the domain of $f(x, y, z) = \sqrt{x} + \sqrt{y} + \sqrt{z} + \ln(4 - x^2 - y^2 - z^2)$.

 - 3 14.1.49 Draw a contour map of $f(x, y) = ye^x$ showing several level curves.

 - 4 14.1.67 Describe the level surfaces of the function $f(x, y, z) = x + 3y + 5z$.

 - 5 14.1.61-66 **On back**
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Additional Recommended Problems

- 6 14.1.19 Find and sketch the domain of the function $f(x, y) = \frac{\sqrt{y - x^2}}{1 - x^2}$

- 7 14.1.69 Describe the level surfaces of the function $f(x, y, z) = y^2 + z^2$.

- 8 14.1.71, 72 Describe how the graph of g is obtained from the graph of f .
 - (a) $g(x, y) = f(x, y) + 2$
 - (b) $g(x, y) = -f(x, y)$
 - (c) $g(x, y) = f(x, y + 2)$
 - (d) $g(x, y) = f(x + 3, y - 4)$

9 14.1.61-66 Match the function with its graph (labeled A-F) and with its contour map (labeled I-VI). Give reasons for your choices.

