Senior Analysis Review Sheet
Lessons 1-4

1. State the domain for each .

a) $y = x^{\frac{1}{3}}$

b) $y = |2x-7|$

c) $y = \dfrac{x^2-4}{x-2}$

d) $y = \sqrt{64-x^2}$

e) $y = \sqrt{\dfrac{x^2-x-6}{16-x^2}}$

f) $y = \dfrac{x}{\sqrt{x^2-x-12}}$

2. Solve (must know how to use Cramer's Rule)

a)
$$\begin{aligned} x+2y-z &= -6 \\ 2x+y-2z &= -6 \\ 3x+3y+\frac{1}{3}z &= -2 \end{aligned}$$

b)
$$\begin{aligned} 2x-y+2z &= 15 \\ -x+y+z &= 3 \\ 3x-y+2z &= 18 \end{aligned}$$

3. ΔABC has vertices A (–2, 9), B (4, 1) and C (2, –3). Find the following

a) Equation of $\overline{AB}$

b) Equation of median to $\overline{BC}$

c) Equation of perpendicular bisector of $\overline{AC}$

4. Find the distance from the line y = x -4 to the point (-2 , 4)

Answers:

1.
a) IIR
b) IIR
c) $x \neq 2$
d) $-8 \leq x \leq 8$
e) $-4 < x \leq -2$ or $3 \leq x < 4$
f) $x < -3$ or $x > 4$

2.
a) $(1\frac{2}{3}, -2, -3\frac{2}{3})$
b) (3, 1, 5)

3.
a) y= -4/3 x +19/3
b) y= -2x +5
c) y= 1/3x + 3

4. $5\sqrt{2}$