MATH3 (814013) – SPRING 2007

WORKSHEET 19

Question (1) : Solve the following inequalities, graph the solution and write the answer in interval notation.

1) $(x-3)(x+1)<0$
2) $x^3 \geq x$
3) $x^2 \leq x$
4) $x^2 < 1$
5) $6x^2+2x \leq (x-1)^2$
6) $x^2-x-6>0$
7) $3x^2 < 10x+8$
8) $(2x-3)(1-x)(x+4) \geq 0$
9) $x^3-2x^2+x \leq 0$
10) $(2x-3)^2 \geq 0$
11) $(2x-3)^2 > 0$
12) $-(2x-3)^2 < 0$
13) $-(2x-3)^2 \leq 0$

Question (2) : Solve the following inequalities, graph the solution and write the answer in interval notation.

1) $\dfrac{3}{x+3} > 0$
2) $\dfrac{-3}{3-2x} \leq 0$
3) $\dfrac{x-3}{x+4} \leq 0$
4) $\dfrac{3}{1+x^2} < 0$
5) $\dfrac{3}{1-x^2} < 0$
6) $\dfrac{x+1}{2x-3} > 2$

7) $\frac{5}{x} > 3$

8) $\frac{3}{x-3} \le \frac{2}{x+2}$

9) $\frac{(x^2+1)(x-3)}{x^2-4} \ge 0$

10) $\frac{x^2-x}{x^2+2x} \le 0$

11) $\frac{x^2-3x-4}{x^2+1} \le 0$

12) $\frac{x^2-1}{x(x-2)} \ge 0$