Math 1513 - College Algebra

Discussion Board Week 10 - Due 2012.03.17

Solve each of the following inequalities. Write each solution in interval notation.

1. $$4x^3 - 12x^2 \geq 0$$

2. $$\frac{3}{x-1} - \frac{2}{x+2} < 1$$

3. $$\frac{x^2 + x + 6}{x} \geq 0$$

4. $$\left|x^2 - 4x + 5\right| < \frac{2}{x}$$

5. $$\left|x^3 + 6x - 1\right| \geq 2x + 4$$

6. $$(x-1)^2(x+2)^3 \geq 0$$

7. $$x^4(x-3) \leq 0$$

8. $$2x^3 - x^4 \leq 0$$

9. $$(x-4)\,|x| > 0$$

10. $$\left|x^2 - 6x\right| < 5$$

11. $$\frac{x-5}{3-x} < 0$$

12. $$2x^3 - 3x^2 - 5x \geq 0$$

13. $$\frac{3x-2}{x} > 4$$

14. $$\frac{x+7}{2x+1} \leq 1$$

15. $$x^3 - 16x \leq 0$$

16. $$(2x+5)(3x-2)(x+1)<0$$

17. $$\frac{4x+5}{x^2}\leq 0$$

18. $$(1-2x)(2x+1)(x-3)\leq 0$$

19. $$\frac{|4x-2|}{x}<4$$

20. $$\frac{x^2-1}{x^2-4}\geq 0$$

21. $$\frac{x^2+1}{x^2+4}\leq \frac{1}{4}$$

22. $$\frac{x^2-1}{x^2-4}\geq 0$$

23. $$\left|6x-x^2\right|>5$$

24. $$-2x^3+3x^2+5x>0$$

25. $$2x^2+5x+2\leq 0$$