

Math 1513 - College Algebra

Discussion Board Week 6 - Due 2012.07.14

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.

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

5.

$$|x^3 + 6x - 1| \geq 2x + 4$$

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.

$$|x^2 - 6x| < 5$$

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.

$$|6x - x^2| > 5$$

24.

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

25.

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