6.1, 6.2, 6.4 More practice)

Factor the expressions (factor only)

1. $4x^3 - 4x^2 - 3x$
2. $x^3 + 64$
3. $8x^3 - 1$
4. $x^4 - 10x^2 + 9$
5. $4x^4 - 2x^2 - 6$

Write the polynomials in standard form from the given zeroes. Classify it by degrees and number of terms

6. **3, -2 multiplicity 2**
7. $-\frac{1}{2}$ **(multiplicity 2), 0 multiplicity 3**
8. **1, -3i,3i**

Find the zeroes and their multiplicity, then sketch the graph. (No Calculator)

9. **$y = x(x+2)^2(x-5)$**
10. **$Y = 3x^2(2x+1)(x-3)^3$**

Solve by graphing: (3 decimal places when needed).

11. $X^3 + 13X = 10X^2$
12. $X^4 + X^3 = 4X^2 + 4X - 5$