



PROBLEMS AND SOLUTIONS - POLYNOMIAL EQUATIONS

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Please Send Questions and Comments to ingrid.stewart@csn.edu. Thank you!

PLEASE NOTE THAT YOU CANNOT USE A CALCULATOR ON THE ACCUPLACER - ELEMENTARY ALGEBRA TEST! YOU MUST BE ABLE TO DO THE FOLLOWING PROBLEMS WITHOUT A CALCULATOR!

Problem 1:

Solve $2x^3 + 16x^2 + 30x = 0$. Find all solutions, real and imaginary!

Problem 2:

Solve $x^4 - 8x^2 - 9 = 0$. Find all solutions, real and imaginary!

Problem 3:

Solve $x^3 - 8 = 0$. Find all solutions, real and imaginary!

Problem 4:

Solve $2x^3 + 3x^2 - 8x - 12 = 0$. Find all solutions, real and imaginary!

Problem 5:

Solve $x^4 + 9x^2 = 0$. Find all solutions, real and imaginary!

Problem 6:

Solve $x^4 - 16x^2 = 0$. Find all solutions, real and imaginary!

Problem 7:


Solve $x^3 + 27 = 0$. Find all solutions, real and imaginary!

Problem 8:

Solve $3x^3 - x^2 - 6x + 2 = 0$. Find all solutions, real and imaginary!

Problem 9:

Solve $x^3 - x^2 - 6x = 0$. Find all solutions, real and imaginary!

**SOLUTIONS**

You can find detailed solutions below the link for this problem set!

1. -5, -3, 0	2. -3, 3, i, -i	3. 2, $-1+i\sqrt{3}$, $-1-i\sqrt{3}$
4. -2, $-\frac{3}{2}$, 2	5. 0, 3i, -3i	6. -4, 0, 4
7. -3, $\frac{3+3i\sqrt{3}}{2}$, $\frac{3-3i\sqrt{3}}{2}$	8. $-\sqrt{2}$, $\frac{1}{3}$, $\sqrt{2}$	9. -2, 0, 3