ALG 2- CHAPTER 8 REVIEW

Problems

1. Divide $3x^3 - 5x^2 - 34x + 24$ by $3x - 2$.

2. Divide $x^3 + x^2 - 5x + 3$ by $x - 1$.

3. Divide $6x^3 - 5x^2 + 5x - 2$ by $2x - 1$.

Factor the polynomials, keeping the factors real.

4. $f(x) = 2x^3 + x^2 - 19x + 36$

5. $g(x) = x^4 - x^3 - 11x^2 - 5x + 4$

Find all roots for each of the following polynomials.

6. $P(x) = x^4 - 2x^3 + x^2 - 8x - 12$

7. $Q(x) = x^3 - 14x^2 + 65x - 102$

Given the following complex root, identify the 2nd root of the quadratic function and write its equation.

8. $7 - 2i$

9. $4 + 5i$

10. Write a polynomial equation for a graph that passes through the point $(-1, 60)$ and has 3 x-intercepts $(-4, 0)$ $(1, 0)$ and $(3, 0)$

NOTE: STUDY PROBLEM 8-148!

Name_____ Period_____

Complex Numbers

Evaluate.

1) $(4i)(-3i)$	2) $7i-(-4i)$	6) $(5-2i)+(4+4i)$
4) $(i)(2i)(-3i)$	5) $(7+2i)+(9-5i)$	8) $(3+4i)(5-2i)$
13) $(2-i)(3+4i)$	11) $(7-4i)-(-3+6i)$	9) $(\sqrt{6}+i)(\sqrt{6}-i)$
9) $-2i(\sqrt{5}+3i)$	14) $\frac{20}{4i}$	15) $\frac{6+5i}{-2i}$
16) $\frac{3-i}{2-i}$	17) $\frac{2-4i}{1+3i}$	18) $\frac{2}{7-8i}$