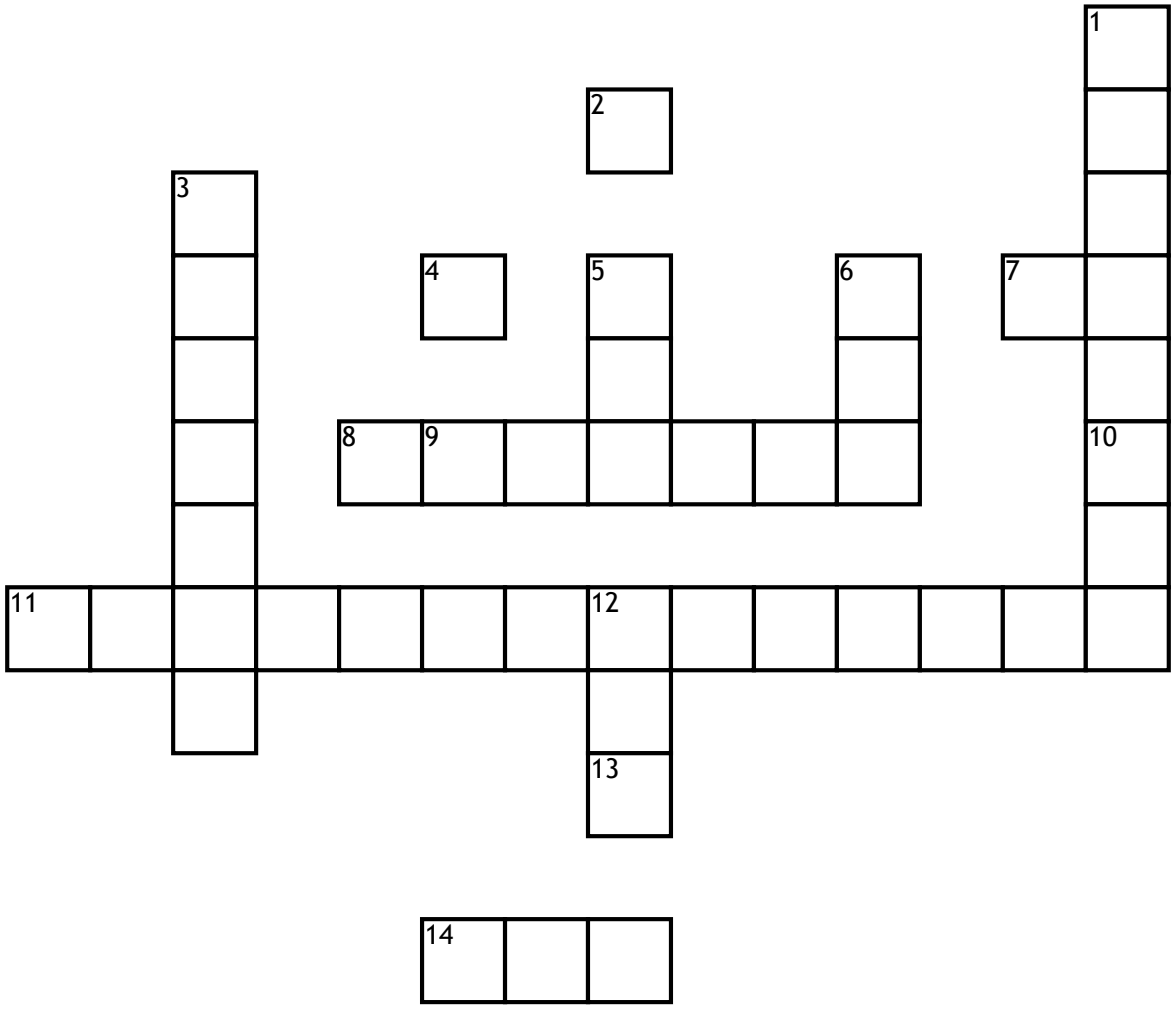
Name: _____ Date: _____

Zeros, Roots and Polynomial Functions, Oh My!



Across

2. The number of unique factors that x4+4x3-3x2-14x-8 has, including (x+4).

7. One complex solution of x4 - 81 = 0

8. The quotient when dividing x3-8x2+17x-10 by x-5

10. The value of a, if you factor x3 - 8 into the form (x-a)(x2+bx+c)

11. The polynomial x3+3x2-13x-15 in completely factored form given the factor (x+5)

13. The only real solution of 6x3 + 10x2 + 9 = 0

14. One additional root given the roots 2 + 3i and 4

Down

1. The polynomial function with rational coefficients that has the roots 3i and the square root of 6.

3. The polynomial function with rational coefficients having -5 and -1 as roots.

4. The length of a container whose volume V is 84 ft3. The width, the length and the height are x, x+1, and x-4 respectively.

5. Choose a factor of x3+3x2-10x-24. Either x-3 or x+6?

6. One solution of 8x3 - 27 = 0

9. The largest possible rational root of 36x3+144x2-x-4=0

12. The remainder when x3-5x2-7x+25 is divided by x-5