Algebra II Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Passport to Advanced Mathematics Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Hour\_\_\_\_\_\_\_\_\_

Notes #1 NO CALCULATOR

Example 1) The functions f and g, defined by f(x) = 4x2 – 32 and g(x) = -4x2 + 32 are graphed in the xy-plane below. The graphs of f and g intersect at the points (k,0) and (-k,0). What is

the value of k?

Example 2) In the equation below, h and k are constants. What are the value for h and k?

64x2 – 169 = (hx + k)(hx – k)

Example 3) If f(x) = -3x + 17, then what is f(-5x)?

Example 4) The table below shows some values of the functions f and g. For which value of x

is f(x) – g(x) = x?

|  |  |  |
| --- | --- | --- |
| x | f(x) | g(x) |
| -2 | -11 | -17 |
| -1 | 1 | -16 |
| 0 | 1 | -15 |
| 1 | -2 | -14 |
| 2 | -11 | -13 |

Example 5) What are the solutions to the quadratic equation 4x2 – 12x + 40 = 0?