

MTH 65 – Winter Term 2011  
Test 3 – Given February 23

Name \_\_\_\_\_

1. Completely factor each expression. Make sure that you show work consistent with that discussed and illustrated in class.

a. Factor  $x^2 + 7x + 6$ . (5 points)

b. Factor  $x^2 + 15x + 36$ . (5 points)

c. Factor  $x^2 - 16x$ . (5 points)

d. Factor  $x^2 - 16$ . (5 points)

e. Factor  $x^2 + 16$ . (5 points)

f. Factor  $x^2 - 3x + 6$ . (5 points)

g. Factor  $81 - p^2$ . (5 points)

h. Factor  $8x^3 + 1$ . (6 points)

i. Factor  $y^3 + 3y^2 + y + 3$ . (5 points)

j. Factor  $49y^2 + 42xy + 9x^2$ . (5 points)

k. Factor  $6x^2 + 8x + 5$ . (5 points)

l. Factor  $126x^3yz + 210y^4z^3 + 42yz$ . (6 points)

m. Factor  $2x^2 + 13x + 15$ . (5 points)

n. Factor  $x^2 y^2 - 10xy + 25$ . (5 points)

o. Factor  $x^3 y - 4xy^3$ . (6 points)

p. Factor  $x^4 - y^{10}$ . (6 points)

2. Find all solutions to each equation. Make sure that you show work consistent with that discussed and illustrated in class.

a. Solve  $(x - 2)(x + 1) = 0$ . (4 points)

b. Solve  $x^2 - 15 = -2x$ . (6 points)

c. Solve  $x^2 + 7x = 0$ . (6 points)