

**Unit 3 Test: Factoring and Expanding Polynomial Expressions**

Name: \_\_\_\_\_

*Max Marks: 24*

Show full solutions, as was done in the lessons, on separate paper. Take a picture or scan your responses and attach the picture or scan in an email to your teacher.

[4] 1. Expand and then simplify by collecting like terms.

a)  $(x+2)(3x+4)$

b)  $-2(x+5)^2$

[3] 2. What is your favorite process [a-c chart, decomposition, or guess and check] to factor the following tricky trinomial? Explain why.  $2x^2 + 7x + 3$ .

[2] 3. Identify each polynomial as a monomial, binomial or trinomial.

a)  $6z^3 - 5z$  \_\_\_\_\_

b)  $-2xyz$  \_\_\_\_\_

[3] 4. Factor these sum and product trinomials.

a)  $t^2 + 9t + 8$

b)  $x^2 - 2x + 15$

[12] 5. Factor these polynomials.

a)  $8m^3 - 4m^2$

b)  $15n^2 + 14n - 8$

c)  $5x^2 - 2x - 7$

d)  $y^2 - 4$

e)  $2x + 2y + x^2 + xy$

f)  $3x^2 - 30x + 27$

**Bonus1:** Correctly spell your math teachers last name. [+1]

**Bonus2:** Type/Write out a unique math joke that involves factoring. [+1]

**Bonus3:** Factor  $y^2 - 2y + 1 - x^2$ . [+1]

**My signature indicates that my assignment responses were independently written by me.**

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date