

NAME: \_\_\_\_\_

*P.I. A2.A.7: Factor polynomial expressions completely, using any combination of the following techniques: common factor extraction, difference of two perfect squares, quadratic trinomials*

Factor:

1.  $10x^2 + 10 + 29x$   
[A]  $(5x+2)(2x-5)$  [B]  $(5x+2)(2x+5)$   
[C]  $(5x-2)(2x+5)$  [D]  $(5x-2)(2x-5)$
2.  $4x^2 + 12x + 9$   
[A]  $(2x-3)^2$  [B]  $(2x+3)(2x-3)$   
[C]  $(2x-9)(2x+1)$  [D]  $(2x+3)^2$
3.  $6x^2 + 10 + 19x$   
[A]  $(2x-5)(3x-2)$  [B]  $(2x+5)(3x-2)$   
[C]  $(2x+5)(3x+2)$  [D]  $(2x-5)(3x+2)$
4.  $15x^2 + 20 + 37x$   
[A]  $(5x+4)(3x-5)$  [B]  $(5x-4)(3x+5)$   
[C]  $(5x+4)(3x+5)$  [D]  $(5x-4)(3x-5)$
5.  $4e^2 - 20e + 25$   
[A]  $(2e-25)(2e+1)$  [B]  $(2e+5)^2$   
[C]  $(2e-5)^2$  [D]  $(2e-5)(2e+5)$
6.  $12x^2 + 2 + 11x$   
[A]  $(3x-2)(4x-1)$  [B]  $(3x-2)(4x+1)$   
[C]  $(3x+2)(4x-1)$  [D]  $(3x+2)(4x+1)$
7.  $25z^2 - 30z + 9$   
[A]  $(5z-3)(5z+3)$  [B]  $(5z-9)(5z+1)$   
[C]  $(5z+3)^2$  [D]  $(5z-3)^2$
8.  $12x^2 + 5 - 19x$   
[A]  $(4x+5)(3x-1)$  [B]  $(4x-5)(3x-1)$   
[C]  $(4x-5)(3x+1)$  [D]  $(4x+5)(3x+1)$
9.  $16x^2 + 3 - 16x$   
[A]  $(4x+3)(4x+1)$  [B]  $(4x-3)(4x+1)$   
[C]  $(4x-3)(4x-1)$  [D]  $(4x+3)(4x-1)$
10.  $16d^2 + 40d + 25$   
[A]  $(4d-25)(4d+1)$  [B]  $(4d-5)^2$   
[C]  $(4d+5)^2$  [D]  $(4d+5)(4d-5)$
11. Find a polynomial that has  $x+3$  as one factor and another factor in the form  $ax^2 + bx + c$ . Divide to prove that your product is correct.