Algebra I EOC Practice #12

SPI 3102.3.3 Factor polynomials.

Factor the following polynomials.

1. $x^2 + 8x + 15$

   A. $(x + 3)(x + 5)$
   B. $(x - 3)(x + 5)$
   C. $(x + 3)(x - 5)$
   D. $(x - 3)(x - 5)$

2. $x^2 - 11x + 24$

   A. $(x + 3)(x - 8)$
   B. $(x - 2)(x - 12)$
   C. $(x - 3)(x - 8)$
   D. $(x + 2)(x + 12)$

3. $6x^2 - 23x + 20$

   A. $(2x - 5)(3x - 4)$
   B. $(2x - 5)(3x + 4)$
   C. $(2x - 5)(4x - 3)$
   D. $(3x - 4)(5x + 2)$

4. $4x^2 - 5x - 6$

   A. $(x + 2)(3x + 4)$
   B. PRIME
   C. $(x - 3)(4x + 2)$
   D. $(x - 2)(4x + 3)$

5. $30x^2y^4z + 35x^3yz^5 - 5xy^2z^6$

   A. $7xyz(6x + 5x^2z^4 - y)$
   B. PRIME
   C. $5xyz(6xy^3 + 7x^2z^4 - yz^5)$
   D. $6x^2y^4z + 5x^3yz^5 - 1xy^2z^6$

6. $x^3 + 5x^2 + 7x + 35$

   A. $x(x^2 + 5x + 7)$
   B. $(x + 5)(x^2 + 7)$
   C. $(x + 7)(x^2 + 5)$
   D. $x(x^2 + 5x + 42)$

7. $8x^2 + 2x - 15$

   A. $(4x - 5)(2x + 3)$
   B. $(4x + 5)(2x - 3)$
   C. $(8x - 5)(x + 3)$
   D. $(8x - 3)(x + 5)$

8. Which expression is equivalent to $n^2 - 16n + 64$?

   A. $(n - 32)(n - 2)$
   B. $(n + 16)(n - 4)$
   C. $(n - 8)(n - 8)$
   D. $(n + 8)(n + 8)$

9. Which expression is equivalent to $x^2 - 36$?

   A. $(x + 9)(x - 4)$
   B. $(x - 6)(x - 6)$
   C. $(x + 6)(x + 6)$
   D. $(x + 6)(x - 6)$

10. Which expression is equivalent to $c^2 + 20c + 100$?

   A. PRIME
   B. $(c + 10)(c + 10)$
   C. $(c - 10)(c - 10)$
   D. $(c + 10)(c - 10)$