

A.A.19: Factoring the Difference of Perfect Squares 1: Identify and factor the difference of two perfect squares

- 1 The expression $x^2 - 16$ is equivalent to
 - 1) $(x + 2)(x - 8)$
 - 2) $(x - 2)(x + 8)$
 - 3) $(x + 4)(x - 4)$
 - 4) $(x + 8)(x - 8)$
- 2 The expression $100n^2 - 1$ is equivalent to
 - 1) $(10n + 1)(10n - 1)$
 - 2) $(10n - 1)(10n - 1)$
 - 3) $(50n + 1)(50n - 1)$
 - 4) $(50n - 1)(50n - 1)$
- 3 Which expression is equivalent to $64 - x^2$?
 - 1) $(8 - x)(8 - x)$
 - 2) $(8 - x)(8 + x)$
 - 3) $(x - 8)(x - 8)$
 - 4) $(x - 8)(x + 8)$
- 4 Which expression is equivalent to $121 - x^2$?
 - 1) $(x - 11)(x - 11)$
 - 2) $(x + 11)(x - 11)$
 - 3) $(11 - x)(11 + x)$
 - 4) $(11 - x)(11 - x)$
- 5 Which expression is equivalent to $9x^2 - 16$?
 - 1) $(3x + 4)(3x - 4)$
 - 2) $(3x - 4)(3x - 4)$
 - 3) $(3x + 8)(3x - 8)$
 - 4) $(3x - 8)(3x - 8)$
- 6 The expression $9x^2 - 100$ is equivalent to
 - 1) $(9x - 10)(x + 10)$
 - 2) $(3x - 10)(3x + 10)$
 - 3) $(3x - 100)(3x - 1)$
 - 4) $(9x - 100)(x + 1)$
- 7 The expression $x^2 - 36y^2$ is equivalent to
 - 1) $(x - 6y)(x - 6y)$
 - 2) $(x - 18y)(x - 18y)$
 - 3) $(x + 6y)(x - 6y)$
 - 4) $(x + 18y)(x - 18y)$
- 8 Factored, the expression $16x^2 - 25y^2$ is equivalent to
 - 1) $(4x - 5y)(4x + 5y)$
 - 2) $(4x - 5y)(4x - 5y)$
 - 3) $(8x - 5y)(8x + 5y)$
 - 4) $(8x - 5y)(8x - 5y)$

- 9 The expression $9a^2 - 64b^2$ is equivalent to
- $(9a - 8b)(a + 8b)$
 - $(9a - 8b)(a - 8b)$
 - $(3a - 8b)(3a + 8b)$
 - $(3a - 8b)(3a - 8b)$
- 10 Which expression is equivalent to $81 - 16x^2$?
- $(9 - 8x)(9 + 8x)$
 - $(9 - 8x)(9 + 2x)$
 - $(9 - 4x)(9 + 4x)$
 - $(9 - 4x)(9 - 4x)$
- 11 When $a^3 - 4a$ is factored completely, the result is
- $(a - 2)(a + 2)$
 - $a(a - 2)(a + 2)$
 - $a^2(a - 4)$
 - $a(a - 2)^2$
- 12 Which expression represents $36x^2 - 100y^6$ factored completely?
- $2(9x + 25y^3)(9x - 25y^3)$
 - $4(3x + 5y^3)(3x - 5y^3)$
 - $(6x + 10y^3)(6x - 10y^3)$
 - $(18x + 50y^3)(18x - 50y^3)$
- 13 Factor completely: $4x^3 - 36x$
- 14 If Ann correctly factors an expression that is the difference of two perfect squares, her factors could be
- $(2x + y)(x - 2y)$
 - $(2x + 3y)(2x - 3y)$
 - $(x - 4)(x - 4)$
 - $(2y - 5)(y - 5)$
- 15 When $9x^2 - 100$ is factored, it is equivalent to $(3x - b)(3x + b)$. What is a value for b ?
- 50
 - 10
 - 3
 - 100

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Answer Section

1 ANS: 3 REF: fall0706ia

2 ANS: 1 REF: 011306ia

3 ANS: 2 REF: 011201ia

4 ANS: 3 REF: 081008ia

5 ANS: 1 REF: 080902ia

6 ANS: 2 REF: 010909ia

7 ANS: 3 REF: 061101ia

8 ANS: 1 REF: 060804ia

9 ANS: 3 REF: 081207ia

10 ANS: 3 REF: 061506ia

11 ANS: 2

$$a^3 - 4a = a(a^2 - 4) = a(a - 2)(a + 2)$$

REF: 011108ia

12 ANS: 2

$$36x^2 - 100y^6 = 4(9x^2 - 25y^6) = 4(3x + 5y^3)(3x - 5y^3)$$

REF: 081129ia

13 ANS:

$$4x(x + 3)(x - 3). \quad 4x^3 - 36x = 4x(x^2 - 9) = 4x(x + 3)(x - 3)$$

REF: 060932ia

14 ANS: 2 REF: 011022ia

15 ANS: 2 REF: 081403ia