

**A.A.19: Factoring the Difference of Perfect Squares 2: Identify and factor the difference of two perfect squares**

- 1 Factor completely:  $3x^2 - 27$ 
  - 1)  $3(x - 3)^2$
  - 2)  $3(x^2 - 27)$
  - 3)  $3(x + 3)(x - 3)$
  - 4)  $(3x + 3)(x - 9)$
- 2 Written in simplest factored form, the binomial  $2x^2 - 50$  can be expressed as
  - 1)  $2(x - 5)(x - 5)$
  - 2)  $2(x - 5)(x + 5)$
  - 3)  $(x - 5)(x + 5)$
  - 4)  $2x(x - 50)$
- 3 Expressed in factored form, the binomial  $4a^2 - 9b^2$  is equivalent to
  - 1)  $(2a - 3b)(2a - 3b)$
  - 2)  $(2a + 3b)(2a - 3b)$
  - 3)  $(4a - 3b)(a + 3b)$
  - 4)  $(2a - 9b)(2a + b)$
- 4 One of the factors of  $4x^2 - 9$  is
  - 1)  $(x + 3)$
  - 2)  $(2x + 3)$
  - 3)  $(4x - 3)$
  - 4)  $(x - 3)$
- 5 One factor of the expression  $x^2y^2 - 16$  is
  - 1)  $xy - 4$
  - 2)  $xy - 8$
  - 3)  $x^2 - 4$
  - 4)  $x^2 + 8$
- 6 What is a common factor of  $x^2 - 9$  and  $x^2 - 5x + 6$ ?
  - 1)  $x + 3$
  - 2)  $x - 3$
  - 3)  $x - 2$
  - 4)  $x^2$
- 7 Factor completely:  $5n^2 - 80$
- 8 Factor completely:  $2x^3 - 98x$
- 9 Factor completely:  $9x^3 - x$
- 10 Factor completely:  $3x^3 - 192x$
- 11 Factor completely:  $3ax^2 - 27a$
- 12 Factor completely:  $5x^2y^3 - 180y$

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## **Answer Section**

1 ANS: 3

$$3x^2 - 27 = 3(x^2 - 9) = 3(x + 3)(x - 3)$$

PTS: 2

REF: 060109a

2 ANS: 2

$$2x^2 - 50 = 2(x^2 - 25) = 2(x + 5)(x - 5)$$

PTS: 2

REF: 080103a

3 ANS: 2

PTS: 2

REF: 010201a

4 ANS: 2

PTS: 2

REF: 010105a

5 ANS: 1

PTS: 2

REF: 080711a

6 ANS: 2

PTS: 2

REF: 010414a

7 ANS:

$$5(n + 4)(n - 4). \quad 5n^2 - 80 = 5(n^2 - 16) = 5(n + 4)(n - 4)$$

PTS: 2

REF: 080533a

8 ANS:

$$2x(x + 7)(x - 7)$$

PTS: 2

REF: 019503siii

9 ANS:

$$x(3x + 1)(3x - 1)$$

PTS: 2

REF: 060008siii

10 ANS:

$$3x(x + 8)(x - 8)$$

PTS: 2

REF: 080011siii

11 ANS:

$$3a(x + 3)(x - 3). \quad 3ax^2 - 27a = 3a(x^2 - 9) = 3a(x + 3)(x - 3)$$

PTS: 2

REF: 080434a

12 ANS:

$$5y(xy + 6)(xy - 6)$$

PTS: 2

REF: 069813siii