

**A.SSE.A.2: Factoring the Difference of Perfect Squares 1**

- 1 The expression  $4x^2 - 25$  is equivalent to
- 1)  $(4x - 5)(x + 5)$
  - 2)  $(4x + 5)(x - 5)$
  - 3)  $(2x + 5)(2x - 5)$
  - 4)  $(2x - 5)(2x - 5)$
- 2 The expression  $49x^2 - 36$  is equivalent to
- 1)  $(7x - 6)^2$
  - 2)  $(24.5x - 18)^2$
  - 3)  $(7x - 6)(7x + 6)$
  - 4)  $(24.5x - 18)(24.5x + 18)$
- 3 The expression  $9m^2 - 100$  is equivalent to
- 1)  $(3m - 10)(3m + 10)$
  - 2)  $(3m - 10)(3m - 10)$
  - 3)  $(3m - 50)(3m + 50)$
  - 4)  $(3m - 50)(3m - 50)$
- 4 The expression  $36x^2 - 9$  is equivalent to
- 1)  $(6x - 3)^2$
  - 2)  $(18x - 4.5)^2$
  - 3)  $(6x + 3)(6x - 3)$
  - 4)  $(18x + 4.5)(18x - 4.5)$
- 5 Which expression is equivalent to  $16x^2 - 36$ ?
- 1)  $4(2x - 3)(2x - 3)$
  - 2)  $4(2x + 3)(2x - 3)$
  - 3)  $(4x - 6)(4x - 6)$
  - 4)  $(4x + 6)(4x + 6)$
- 6 The expression  $16x^2 - 81$  is equivalent to
- 1)  $(8x - 9)(8x + 9)$
  - 2)  $(8x - 9)(8x - 9)$
  - 3)  $(4x - 9)(4x + 9)$
  - 4)  $(4x - 9)(4x - 9)$
- 7 Which expression is equivalent to  $18x^2 - 50$ ?
- 1)  $2(3x + 5)^2$
  - 2)  $2(3x - 5)^2$
  - 3)  $2(3x - 5)(3x + 5)$
  - 4)  $2(3x - 25)(3x + 25)$
- 8 Which expression is equivalent to  $36x^2 - 100$ ?
- 1)  $4(3x - 5)(3x - 5)$
  - 2)  $4(3x + 5)(3x - 5)$
  - 3)  $2(9x - 25)(9x - 25)$
  - 4)  $2(9x + 25)(9x - 25)$
- 9 When factored, the expression  $x^3 - 36x$  is equivalent to
- 1)  $(x + 6)(x - 6)$
  - 2)  $(x + 18)(x - 18)$
  - 3)  $x(x + 6)(x - 6)$
  - 4)  $x(x + 18)(x - 18)$

10 The expression  $x^4 - 16$  is equivalent to

- 1)  $(x^2 + 8)(x^2 - 8)$
- 2)  $(x^2 - 8)(x^2 - 8)$
- 3)  $(x^2 + 4)(x^2 - 4)$
- 4)  $(x^2 - 4)(x^2 - 4)$

14 Which expression is equivalent to  $16x^4 - 64$ ?

- 1)  $(4x^2 - 8)^2$
- 2)  $(8x^2 - 32)^2$
- 3)  $(4x^2 + 8)(4x^2 - 8)$
- 4)  $(8x^2 + 32)(8x^2 - 32)$

11 The expression  $w^4 - 36$  is equivalent to

- 1)  $(w^2 - 18)(w^2 - 18)$
- 2)  $(w^2 + 18)(w^2 - 18)$
- 3)  $(w^2 - 6)(w^2 - 6)$
- 4)  $(w^2 + 6)(w^2 - 6)$

15 Factor  $18x^2 - 2$  completely.

16 Factor  $36 - 4x^2$  completely.

12 When factored completely, the expression  $p^4 - 81$  is equivalent to

- 1)  $(p^2 + 9)(p^2 - 9)$
- 2)  $(p^2 - 9)(p^2 - 9)$
- 3)  $(p^2 + 9)(p + 3)(p - 3)$
- 4)  $(p + 3)(p - 3)(p + 3)(p - 3)$

17 Factor completely:  $4x^3 - 49x$

18 Factor  $5x^3 - 80x$  completely.

13 Which expression is equivalent to  $y^4 - 100$ ?

- 1)  $(y^2 - 10)^2$
- 2)  $(y^2 - 50)^2$
- 3)  $(y^2 + 10)(y^2 - 10)$
- 4)  $(y^2 + 50)(y^2 - 50)$

19 Factor  $20x^3 - 45x$  completely.

20 Factor  $x^4 - 16$  completely.

21 Factor the expression  $x^4 - 36x^2$  completely.

22 Factor the expression  $x^4 + 6x^2 - 7$  completely.

**A.SSE.A.2: Factoring the Difference of Perfect Squares 1****Answer Section**

1 ANS: 3 REF: 081807ai

2 ANS: 3 REF: 081703ai

3 ANS: 1 REF: 062301ai

4 ANS: 3 REF: 082203ai

5 ANS: 2

$$16x^2 - 36 = 4(2x + 3)(2x - 3)$$

REF: 011701ai

6 ANS: 3 REF: 081908ai

7 ANS: 3

$$18x^2 - 50 = 2(9x^2 - 25) = 2(3x - 5)(3x + 5)$$

REF: 012006ai

8 ANS: 2

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

REF: 081608ai

9 ANS: 3

$$x^3 - 36x = x(x^2 - 36) = x(x + 6)(x - 6)$$

REF: 012501ai

10 ANS: 3 REF: 061601ai

11 ANS: 4 REF: 061901ai

12 ANS: 3 REF: 011522ai

13 ANS: 3 REF: 011809ai

14 ANS: 3 REF: 061706ai

15 ANS:

$$18x^2 - 2 = 2(9x^2 - 1) = 2(3x + 1)(3x - 1)$$

REF: 082331ai

16 ANS:

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

REF: 012432ai

17 ANS:

$$4x^3 - 49x = x(4x^2 - 49) = x(2x + 7)(2x - 7)$$

REF: 012331ai

18 ANS:

$$5x^3 - 80x = 5x(x^2 - 16) = 5x(x + 4)(x - 4)$$

REF: 082430ai

19 ANS:

$$20x^3 - 45x = 5x(4x^2 - 9) = 5x(2x + 3)(2x - 3)$$

REF: 062430ai

20 ANS:

$$(x^2 + 4)(x + 2)(x - 2)$$

REF: 062128ai

21 ANS:

$$x^2(x^2 - 36) = x^2(x + 6)(x - 6)$$

REF: 062231ai

22 ANS:

$$x^4 + 6x^2 - 7$$

$$(x^2 + 7)(x^2 - 1)$$

$$(x^2 + 7)(x + 1)(x - 1)$$

REF: 061431ai