

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

- 10 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) $(w^2 + 6)(w^2 - 6)$
- 11 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) $(p + 3)(p - 3)(p + 3)(p - 3)$
- 12 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) $(y^2 + 50)(y^2 - 50)$
- 13 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) $(8x^2 + 32)(8x^2 - 32)$
- 14 Factor $18x^2 - 2$ completely.
- 15 Factor $36 - 4x^2$ completely.
- 16 Factor completely: $4x^3 - 49x$
- 17 Factor $5x^3 - 80x$ completely.
- 18 Factor $20x^3 - 45x$ completely.
- 19 Factor $x^4 - 16$ completely.
- 20 Factor the expression $x^4 - 36x^2$ completely.
- 21 Factor the expression $x^4 + 6x^2 - 7$ completely.

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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 REF: 061601ai

10 ANS: 4 REF: 061901ai

11 ANS: 3 REF: 011522ai

12 ANS: 3 REF: 011809ai

13 ANS: 3 REF: 061706ai

14 ANS:

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

REF: 082331ai

15 ANS:

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

REF: 012432ai

16 ANS:

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

REF: 012331ai

17 ANS:

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

REF: 082430ai

18 ANS:

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

REF: 062430ai

19 ANS:

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

REF: 062128ai

20 ANS:

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

REF: 062231ai

21 ANS:

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

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

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

REF: 061431ai