

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

- 1 When $a^3 - 4a$ is factored completely, the result is
 - 1) $(a - 2)(a + 2)$
 - 2) $a(a - 2)(a + 2)$
 - 3) $a^2(a - 4)$
 - 4) $a(a - 2)^2$
- 2 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) $(x^2 - 4)(x^2 - 4)$
- 3 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) $(p + 3)(p - 3)(p + 3)(p - 3)$
- 4 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) $(8x^2 + 32)(8x^2 - 32)$
- 5 When factored completely, $x^4 - 13x^2 + 36$ is equivalent to
 - 1) $(x^2 - 6)(x^2 - 6)$
 - 2) $(x^2 - 4)(x^2 - 9)$
 - 3) $(x - 2)(x - 2)(x - 3)(x - 3)$
 - 4) $(x - 2)(x + 2)(x - 3)(x + 3)$
- 6 Factor completely: $9x^3 - x$
- 7 Factor: $4x^3 - 9x$
- 8 Factor completely: $4x^3 - 36x$
- 9 Factor completely: $2x^3 - 98x$
- 10 Factor completely: $3x^3 - 192x$
- 11 Factor: $a^4 - 16$
- 12 Factor the expression $x^4 + 6x^2 - 7$ completely.

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Answer Section

1 ANS: 2

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

REF: 011108ia

2 ANS: 3

REF: 061601ai

3 ANS: 3

REF: 011522ai

4 ANS: 3

REF: 061706ai

5 ANS: 4

$$x^4 - 13x^2 + 36 = (x^2 - 4)(x^2 - 9) = (x - 2)(x + 2)(x - 3)(x + 3)$$

REF: 011703a2

6 ANS:

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

REF: 060008siii

7 ANS:

$$x(2x + 3)(2x - 3)$$

REF: 019703al

8 ANS:

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

REF: 060932ia

9 ANS:

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

REF: 019503siii

10 ANS:

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

REF: 080011siii

11 ANS:

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

REF: 069404al

12 ANS:

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

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

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

REF: 061431ai