A.SSE.A.2: Factoring the Difference of Perfect Squares 3

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

3 Factor completely: $9x^3 - x$

4 Factor: $4x^3 - 9x$

5 Factor completely: $4x^3 - 36x$

6 Factor completely: $2x^3 - 98x$

7 Factor completely: $3x^3 - 192x$

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

REF: 011703a2

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

REF: 060008siii

4 ANS:
$x(2x+3)(2x-3)$

REF: 019703al

5 ANS:
$4x(x+3)(x-3)$. $4x^3 - 36x = 4x(x^2 - 9) = 4x(x+3)(x-3)$

REF: 060932ia

6 ANS:
$2x(x+7)(x-7)$

REF: 019503siii

7 ANS:
$3x(x+8)(x-8)$

REF: 080011siii