

A.SSE.A.2: Factoring Polynomials 7

- 1 One factor of the expression $x^2y^2 - 16$ is
 - 1) $xy - 4$
 - 2) $xy - 8$
 - 3) $x^2 - 4$
 - 4) $x^2 + 8$
- 2 The greatest common factor of $3m^2n + 12mn^2$ is?
 - 1) $3n$
 - 2) $3m$
 - 3) $3mn$
 - 4) $3mn^2$
- 3 The greatest common factor of $4a^2b$ and $6ab^3$ is
 - 1) $2ab$
 - 2) $2ab^2$
 - 3) $12ab$
 - 4) $24a^3b^4$
- 4 If one factor of $56x^4y^3 - 42x^2y^6$ is $14x^2y^3$, what is the other factor?
 - 1) $4x^2 - 3y^3$
 - 2) $4x^2 - 3y^2$
 - 3) $4x^2y - 3xy^3$
 - 4) $4x^2y - 3xy^2$
- 5 If Ann correctly factors an expression that is the difference of two perfect squares, her factors could be
 - 1) $(2x + y)(x - 2y)$
 - 2) $(2x + 3y)(2x - 3y)$
 - 3) $(x - 4)(x - 4)$
 - 4) $(2y - 5)(y - 5)$
- 6 Written in factored form, the binomial $a^2 - 16b^2$ is equivalent to
 - 1) $(a - 4b)(a + 4b)$
 - 2) $(a - 4b)(a - 4b)$
 - 3) $(a - 8b)(a + 8b)$
 - 4) $(a - 8b)(a - 8b)$
- 7 The expression $x^2 - 36y^2$ is equivalent to
 - 1) $(x - 6y)(x - 6y)$
 - 2) $(x - 18y)(x - 18y)$
 - 3) $(x + 6y)(x - 6y)$
 - 4) $(x + 18y)(x - 18y)$
- 8 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) $(2a - 9b)(2a + b)$
- 9 The expression $9a^2 - 64b^2$ is equivalent to
 - 1) $(9a - 8b)(a + 8b)$
 - 2) $(9a - 8b)(a - 8b)$
 - 3) $(3a - 8b)(3a + 8b)$
 - 4) $(3a - 8b)(3a - 8b)$
- 10 Factored, the expression $16x^2 - 25y^2$ is equivalent to
 - 1) $(4x - 5y)(4x + 5y)$
 - 2) $(4x - 5y)(4x - 5y)$
 - 3) $(8x - 5y)(8x + 5y)$
 - 4) $(8x - 5y)(8x - 5y)$

11 If the area of a rectangle is expressed as $x^4 - 9y^2$, then the product of the length and the width of the rectangle could be expressed as

- 1) $(x - 3y)(x + 3y)$
- 2) $(x^2 - 3y)(x^2 + 3y)$
- 3) $(x^2 - 3y)(x^2 - 3y)$
- 4) $(x^4 + y)(x - 9y)$

12 Which expression represents $36x^2 - 100y^6$ factored completely?

- 1) $2(9x + 25y^3)(9x - 25y^3)$
- 2) $4(3x + 5y^3)(3x - 5y^3)$
- 3) $(6x + 10y^3)(6x - 10y^3)$
- 4) $(18x + 50y^3)(18x - 50y^3)$

13 Factor: $a^2 - a - a^2b - ab$

14 Factor: $a^2 + ab - 12b^2$

15 Factor: $2a^2 + ab - 6b^2$

16 Factor: $4a^2 - 12ab + 9b^2$

17 Factor: $6a^2 + 5ab - 6b^2$

18 Factor: $6a^2 - 5ab - 6b^2$

19 Factor: $6x^2 - 13xy + 6y^2$

20 Factor: $6a^2 + 13ab + 6b^2$

21 Factor: $12a^2 - 5ab - 3b^2$

22 Factor: $16a^4 + 8a^2b^2 + b^4$

23 Factor completely: $10ax^2 - 23ax - 5a$

24 Factor completely: $3ax^2 - 27a$

25 Factor: $12a^2 - 27b^2$

26 Factor completely: $5x^2y^3 - 180y$

27 Factor: $4a^2b^4 - 25x^6y^4$

28 Factor: $9a^6 - 16b^8$

29 Factor: $x^2 + 2xy + y^2 - 4$

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Answer Section

1 ANS: 1 REF: 080711a

2 ANS: 3
 $3mn(m+4n)$

REF: 011402ia

3 ANS: 1 REF: 080818a

4 ANS: 1
 $56x^4y^3 - 42x^2y^6 = 14x^2y^3(4x^2 - 3y^3)$

REF: 060318a

5 ANS: 2 REF: 011022ia

6 ANS: 1 REF: 061627ia

7 ANS: 3 REF: 061101ia

8 ANS: 2 REF: 010201a

9 ANS: 3 REF: 081207ia

10 ANS: 1 REF: 060804ia

11 ANS: 2 REF: 061503ai

12 ANS: 2
 $36x^2 - 100y^6 = 4(9x^2 - 25y^6) = 4(3x + 5y^3)(3x - 5y^3)$

REF: 081129ia

13 ANS:
 $a(a-1-ab-b)$

REF: 089304al

14 ANS:
 $(a+4b)(a-3b)$

REF: 119304al

15 ANS:
 $(2a-3b)(a+2b)$

REF: 039404al

16 ANS:
 $(2a-3b)(2a-3b)$

REF: 119304al

17 ANS:
 $(3a-2b)(2a+3b)$

REF: 019306al

18 ANS:
 $(3a + 2b)(2a - 3b)$

REF: 089304al

19 ANS:
 $(3x - 2y)(2x - 3y)$

REF: 039303al

20 ANS:
 $(3a + 2b)(2a + 3b)$

REF: 069303al

21 ANS:
 $(4a - 3b)(3a + b)$

REF: 019405al

22 ANS:
 $(4a^2 + b^2)(4a^2 + b^2)$

REF: 019405al

23 ANS:
 $10ax^2 - 23ax - 5a = a(10x^2 - 23x - 5) = a(5x + 1)(2x - 5)$

REF: 081028a2

24 ANS:
 $3a(x + 3)(x - 3). 3ax^2 - 27a = 3a(x^2 - 9) = 3a(x + 3)(x - 3)$

REF: 080434a

25 ANS:
 $3(2a + 3b)(2a - 3b)$

REF: 069303al

26 ANS:
 $5y(xy + 6)(xy - 6)$

REF: 069813siii

27 ANS:
 $(2ab^2 + 5x^3y^2)(2ab^2 - 5x^3y^2)$

REF: 019405al

28 ANS:
 $(3a^3 + 4b^4)(3a^3 - 4b^4)$

REF: 119304al

29 ANS:
 $(x+y+2)(x+y-2)$

REF: 019105al