

A.SSE.A.2: Factoring Polynomials 4

1 The greatest common factor of $3m^2n + 12mn^2$ is?

- 1) $3n$
- 2) $3m$
- 3) $3mn$
- 4) $3mn^2$

2 The greatest common factor of $4a^2b$ and $6ab^3$ is

- 1) $2ab$
- 2) $2ab^2$
- 3) $12ab$
- 4) $24a^3b^4$

3 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) $4x^2y - 3xy^2$

4 Which expression has been rewritten correctly to form a true statement?

- 1) $(x + 2)^2 + 2(x + 2) - 8 = (x + 6)x$
- 2) $x^4 + 4x^2 + 9x^2y^2 - 36y^2 = (x + 3y)^2(x - 2)^2$
- 3) $x^3 + 3x^2 - 4xy^2 - 12y^2 = (x - 2y)(x + 3)^2$
- 4) $(x^2 - 4)^2 - 5(x^2 - 4) - 6 = (x^2 - 7)(x^2 - 6)$

5 Factor: $ab^2 - ab$

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

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

8 Factor: $a^2 + 3ab + 2b^2$

9 Factor: $ax^2 - 4a^2x + 4a^3$

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

11 Factor: $2a^2 + ab - 3b^2$

12 Factor: $2a^2 + 3ab - 2b^2$

13 Factor: $2a^2b + ab^2 - b^3$

14 Factor: $2a^2 - 5ab + 2b^2$

15 Factor: $2x^2 - 3xy - 2y^2$

25 Factor: $6a^2 + 7ax - 3x^2$

16 Factor: $3a^2 + 6ab - 24b^2$

26 Factor: $6a^2 + 10ab - 4b^2$

17 Factor: $7x^2 + 25xy - 12y^2$

27 Factor: $8x^2 - 8xy - 6y^2$

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

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

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

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

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

30 Factor: $12x^2 + 7xy - 10y^2$

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

31 Factor: $12a^2 + 12ab + 3b^2$

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

32 Factor: $15a^2 - 26ab - 24b^2$

23 Factor: $6a^2 + 5ab - 4b^2$

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

24 Factor: $6a^2 - 11ab + 3b^2$

34 Factor: $\frac{x^2}{4} - xy + y^2$

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Answer Section

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

REF: 011402ia

2 ANS: 1 REF: 080818a

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

REF: 060318a

4 ANS: 1

1) let $y = x + 2$, then $y^2 + 2y - 8$

$$(y + 4)(y - 2)$$

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

$$(x + 6)x$$

REF: 081715aai

5 ANS:
 $ab(b - 1)$

REF: 010003al

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

REF: 089304al

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

REF: 119304al

8 ANS:
 $(a + 2b)(a + b)$

REF: 019604al

9 ANS:
 $a(x - 2a)(x - 2a)$

REF: 069802al

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

REF: 039404al

- 11 ANS:
 $(2a + 3b)(a - b)$
REF: 019703al
- 12 ANS:
 $(2a - b)(a + 2b)$
REF: 069404al
- 13 ANS:
 $b(2a - b)(a + b)$
REF: 069404al
- 14 ANS:
 $(2a - b)(a - 2b)$
REF: 099403al
- 15 ANS:
 $(2x + y)(x - 2y)$
REF: 019506al
- 16 ANS:
 $3(a - 2b)(a + 4b)$
REF: 010602al
- 17 ANS:
 $(7x - 3y)(x + 4y)$
REF: 039703al
- 18 ANS:
 $(2a - 3b)(2a - 3b)$
REF: 119304al
- 19 ANS:
 $(3a - 2b)(2a + 3b)$
REF: 019306al
- 20 ANS:
 $(3x - 2y)(2x - 3y)$
REF: 039303al
- 21 ANS:
 $(3a + 2b)(2a + 3b)$
REF: 069303al
- 22 ANS:
 $(3a + 2b)(2a - 3b)$
REF: 089304al

23 ANS:
 $(3a + 4b)(2a - b)$

REF: 039506al

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

REF: 069607al

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

REF: 089803al

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

REF: 019806al

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

REF: 099503al

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

REF: 081028a2

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

REF: 019405al

30 ANS:
 $(3x - 2y)(4x + 5y)$

REF: 099904al

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

REF: 069607al

32 ANS:
 $(5a - 12b)(3a + 2b)$

REF: 090502al

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

REF: 019405al

34 ANS:

$$\left(\frac{x}{2} - y\right)\left(\frac{x}{2} - y\right)$$

REF: 060003al