

A.SSE.A.2: Factoring Polynomials 1

- 1 Which expression is equivalent to $x^2 + 5x - 6$?
- 1) $(x + 3)(x - 2)$
 - 2) $(x + 2)(x - 3)$
 - 3) $(x - 6)(x + 1)$
 - 4) $(x + 6)(x - 1)$
- 2 What is the correct factorization of $x^2 + 4x - 12$?
- 1) $(x + 3)(x - 4)$
 - 2) $(x - 3)(x + 4)$
 - 3) $(x + 2)(x - 6)$
 - 4) $(x - 2)(x + 6)$
- 3 The expression $x^2 - 10x + 24$ is equivalent to
- 1) $(x + 12)(x - 2)$
 - 2) $(x - 12)(x + 2)$
 - 3) $(x + 6)(x + 4)$
 - 4) $(x - 6)(x - 4)$
- 4 David correctly factored the expression $m^2 - 12m - 64$. Which expression did he write?
- 1) $(m - 8)(m - 8)$
 - 2) $(m - 8)(m + 8)$
 - 3) $(m - 16)(m + 4)$
 - 4) $(m + 16)(m - 4)$
- 5 The trinomial $x^2 - 14x + 49$ can be expressed as
- 1) $(x - 7)^2$
 - 2) $(x + 7)^2$
 - 3) $(x - 7)(x + 7)$
 - 4) $(x - 7)(x + 2)$
- 6 Which expression is equivalent to $2x^2 + 8x - 10$?
- 1) $2(x - 1)(x + 5)$
 - 2) $2(x + 1)(x - 5)$
 - 3) $2(x - 1)(x - 5)$
 - 4) $2(x + 1)(x + 5)$
- 7 Which expression is *not* equivalent to $2x^2 + 10x + 12$?
- 1) $(2x + 4)(x + 3)$
 - 2) $(2x + 6)(x + 2)$
 - 3) $(2x + 3)(x + 4)$
 - 4) $2(x + 3)(x + 2)$
- 8 Four expressions are shown below.
- | | |
|-----|---------------------|
| I | $2(2x^2 - 2x - 60)$ |
| II | $4(x^2 - x - 30)$ |
| III | $4(x + 6)(x - 5)$ |
| IV | $4x(x - 1) - 120$ |
- The expression $4x^2 - 4x - 120$ is equivalent to
- 1) I and II, only
 - 2) II and IV, only
 - 3) I, II, and IV
 - 4) II, III, and IV
- 9 The area of a rectangle is represented by $3x^2 - 10x - 8$. Which expression can also be used to represent the area of the same rectangle?
- 1) $(3x + 2)(x - 4)$
 - 2) $(3x + 2)(x + 4)$
 - 3) $(3x + 4)(x - 2)$
 - 4) $(3x - 4)(x + 2)$

10 When written in factored form, $4w^2 - 11w - 3$ is equivalent to

- 1) $(2w + 1)(2w - 3)$
- 2) $(2w - 1)(2w + 3)$
- 3) $(4w + 1)(w - 3)$
- 4) $(4w - 1)(w + 3)$

15 Factor $2x^2 + 16x - 18$ completely.

16 Factor completely: $3y^2 - 12y - 288$

11 Which product is equivalent to $4x^2 - 3x - 27$?

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

12 When factored completely, $x^3 - 13x^2 - 30x$ is

- 1) $x(x + 3)(x - 10)$
- 2) $x(x - 3)(x - 10)$
- 3) $x(x + 2)(x - 15)$
- 4) $x(x - 2)(x + 15)$

13 When factored completely, $-x^3 + 10x^2 + 24x$ is

- 1) $-x(x + 4)(x - 6)$
- 2) $-x(x - 4)(x - 6)$
- 3) $-x(x + 2)(x - 12)$
- 4) $-x(x - 2)(x + 12)$

14 Which expression is equivalent to $x^4 - 12x^2 + 36$?

- 1) $(x^2 - 6)(x^2 - 6)$
- 2) $(x^2 + 6)(x^2 + 6)$
- 3) $(6 - x^2)(6 + x^2)$
- 4) $(x^2 + 6)(x^2 - 6)$

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Answer Section

1 ANS: 4 REF: 062204ai

2 ANS: 4 REF: 082401ai

3 ANS: 4 REF: 012012ai

4 ANS: 3 REF: 081803ai

5 ANS: 1 REF: 061810ai

6 ANS: 1 REF: 012314ai

7 ANS: 3

$$(2x + 3)(x + 4) = 2x^2 + 11x + 12$$

REF: 081916ai

8 ANS: 3 REF: 081509ai

9 ANS: 1 REF: 011906ai

10 ANS: 3 REF: 061917ai

11 ANS: 3 REF: 062110ai

12 ANS: 3 REF: 011612ai

13 ANS: 3

$$-x^3 + 10x^2 + 24x = -x(x^2 - 10x - 24) = -x(x + 2)(x - 12)$$

REF: 012421ai

14 ANS: 1 REF: 081415ai

15 ANS:

$$2(x^2 + 8x - 9) = 2(x + 9)(x - 1)$$

REF: 062331ai

16 ANS:

$$3y^2 - 12y - 288$$

$$3(y^2 - 4y - 96)$$

$$3(y - 12)(y + 8)$$

REF: 082232ai