## A.SSE.A.2: Factoring Polynomials 2

1 If $3x$ is one factor of $3x^2 - 9x$, what is the other factor?
1) $3x$
2) $x^2 - 6x$
3) $x - 3$
4) $x + 3$

2 Which expression is a factor of $x^2 + 2x - 15$?
1) $(x - 3)$
2) $(x + 3)$
3) $(x + 15)$
4) $(x - 5)$

3 Which is a factor of $x^2 + 5x - 24$?
1) $(x + 4)$
2) $(x - 4)$
3) $(x + 3)$
4) $(x - 3)$

4 Which expression is a factor of $n^2 + 3n - 54$?
1) $n + 6$
2) $n^2 + 9$
3) $n - 9$
4) $n + 9$

5 What are the factors of the expression $x^2 + x - 20$?
1) $(x + 5)$ and $(x + 4)$
2) $(x + 5)$ and $(x - 4)$
3) $(x - 5)$ and $(x + 4)$
4) $(x - 5)$ and $(x - 4)$

6 What are the factors of $x^2 - 10x - 24$?
1) $(x - 4)(x + 6)$
2) $(x - 4)(x - 6)$
3) $(x - 12)(x + 2)$
4) $(x + 12)(x - 2)$

7 What are the factors of $x^2 - 5x + 6$?
1) $(x + 2)$ and $(x + 3)$
2) $(x - 2)$ and $(x - 3)$
3) $(x + 6)$ and $(x - 1)$
4) $(x - 6)$ and $(x + 1)$

8 Factored completely, the expression $2x^2 + 10x - 12$ is equivalent to
1) $2(x - 6)(x + 1)$
2) $2(x + 6)(x - 1)$
3) $2(x + 2)(x + 3)$
4) $2(x - 2)(x - 3)$

9 Factored completely, the expression $2y^2 + 12y - 54$ is equivalent to
1) $2(y + 9)(y - 3)$
2) $2(y - 3)(y - 9)$
3) $(y + 6)(2y - 9)$
4) $(2y + 6)(y - 9)$

10 Factored completely, the expression $3x^2 - 3x - 18$ is equivalent to
1) $3(x^2 - x - 6)$
2) $3(x - 3)(x + 2)$
3) $(3x - 9)(x + 2)$
4) $(3x + 6)(x - 3)$

11 When factored completely, the expression $3x^2 - 9x + 6$ is equivalent to
1) $(3x - 3)(x - 2)$
2) $(3x + 3)(x - 2)$
3) $3(x + 1)(x - 2)$
4) $3(x - 1)(x - 2)$

12 Factored completely, the expression $3x^3 - 33x^2 + 90x$ is equivalent to
1) $3x(x^2 - 33x + 90)$
2) $3x(x^2 - 11x + 30)$
3) $3x(x + 5)(x + 6)$
4) $3x(x - 5)(x - 6)$

13 Factored completely, the expression $6x - x^3 - x^2$ is equivalent to
1) $x(x + 3)(x - 2)$
2) $x(x - 3)(x + 2)$
3) $-x(x - 3)(x + 2)$
4) $-x(x + 3)(x - 2)$

14 Factor completely: $3x^2 + 15x - 42$

15 Factor completely: $5x^3 - 20x^2 - 60x$

## A.SSE.A.2: Factoring Polynomials 2
## Answer Section

1 ANS: 3
$3x^2 - 9x = 3x(x - 3)$

REF: 060421a
2 ANS: 1
$x^2 + 2x - 15 = (x + 5)(x - 3)$

REF: 010004a
3 ANS: 4
$x^2 + 5x - 24 = (x + 8)(x - 3)$

REF: spring9806a
4 ANS: 4
$n^2 + 3n - 54 = (n + 9)(n - 6)$

REF: 060206a
5 ANS: 2 REF: 061105ia
6 ANS: 3
$x^2 - 10x - 24 = (x - 12)(x + 2)$

REF: 010318a
7 ANS: 2
$x^2 - 5x + 6 = (x - 2)(x - 3)$

REF: 010814a
8 ANS: 2
$2x^2 + 10x - 12 = 2(x^2 + 5x - 6) = 2(x + 6)(x - 1)$

REF: 080806ia
9 ANS: 1
$2y^2 + 12y - 54 = 2(y^2 + 6y - 27) = 2(y + 9)(y - 3)$

REF: 060623a
10 ANS: 2 REF: 061027ia
11 ANS: 4
$3x^2 - 9x + 6 = 3(x^2 - 3x + 2) = 3(x - 1)(x - 2)$

REF: 061421ia
12 ANS: 4
$3x^3 - 33x^2 + 90x = 3x(x^2 - 11x + 30) = 3x(x - 5)(x - 6)$

REF: 061227ia

13 ANS: 4

$6x - x^3 - x^2 = -x(x^2 + x - 6) = -x(x + 3)(x - 2)$

REF: fall0917a2

14 ANS:

$3(x + 7)(x - 2)$. $3x^2 + 15x - 42 = 3(x^2 + 5x - 14) = 3(x + 7)(x - 2)$

REF: 060535a

15 ANS:

$5x^3 - 20x^2 - 60x$

$5x(x^2 - 4x - 12)$

$5x(x + 2)(x - 6)$

REF: 011332ia