Factoring Patterns 2 Key

Factor.

1) $2a^2 + 7a + 6$
   $(2x + 3)(a + 2)$

5) $2a^2 + 13a + 6$
   $(2a + 1)(a + 6)$

10) $3a^2 + 11a + 6$
    $(3a + 2)(a + 3)$

14) $3a^2 + 19a + 6$
    $(3a + 1)(a + 6)$

2) $2a^2 - 7a + 6$
   $(2a - 3)(a - 2)$

6) $2a^2 - 13a + 6$
   $(2a - 1)(a - 6)$

11) $3a^2 - 11a + 6$
    $(3a - 2)(a - 3)$

15) $3a^2 - 19a + 6$
    $(3a - 1)(a - 6)$

3) $2a^2 - a - 6$
   $(2a + 3)(a - 2)$

7) $2a^2 + 11a - 6$
   $(2a - 1)(a + 6)$

12) $3a^2 + 7a - 6$
    $(3a - 2)(a + 3)$

16) $3a^2 + 17a - 6$
    $(3a - 1)(a + 6)$

4) $2a^2 + a - 6$
   $(2a - 3)(a + 2)$

8) $2a^2 - 11a - 6$
   $(2a + 1)(a - 6)$

13) $3a^2 - 7a - 6$
    $(3a + 2)(a - 3)$

17) $3a^2 + 17a - 6$
    $(3a - 1)(a + 6$

9) Give all factor pairs of a trinomial of the form $3a^2 + ? a + 7$. (Don't worry about the signs).

(3a and 7)(a and 1);
(3a and 1)(a and 7)

18) Give all factor pairs of a trinomial of the form $2a^2 + ? a + 5$. (Don't worry about the signs).

(2a and 5)(a and 1);
(2a and 1)(a and 5)

19) $3v^2 + 10v + 8$
    $(3v + 4)(v + 2)$

23) $3v^2 + 14v + 8$
    $(3v + 2)(v + 4)$

28) $3v^2 + 23v - 8$
    $(3v - 1)(v + 8)$

33) $3v^2 + 5v - 8$
    $(3v + 8)(v - 1)$

20) $3v^2 - 10v + 8$
    $(3v - 4)(v - 2)$

24) $3v^2 + 10v - 8$
    $(3v - 2)(v + 4)$

29) $3v^2 + 25v + 8$
    $(3v + 1)(v + 8)$

34) $3v^2 - 5v - 8$
    $(3v - 8)(v + 1)$

21) $3v^2 + 2v - 8$
    $(3v - 4)(v + 2)$

25) $3v^2 - 14v + 8$
    $(3v - 2)(v - 4)$

30) $3v^2 - 23v - 8$
    $(3v + 1)(v - 8)$

35) $3v^2 + 11v + 8$
    $(3v + 8)(v + 1)$

22) $3v^2 - 2v - 8$
    $(3v + 4)(v - 2)$

26) $3v^2 - 10v - 8$
    $(3v + 2)(v - 4)$

31) $3v^2 - 25v + 8$
    $(3v - 1)(v - 81)$

36) $3v^2 - 11v + 8$
    $(3v - 8)(v - 1)$

27) Give all factor pairs of a trinomial of the form $5v^2 + ? v + 6$. (Don't worry about the signs).

(5v and 6)(v and 1);   (5v and 3)(v and 2);
(5v and 1)(v and 6)   (5v and 2)(v and 3)

37) Give all factor pairs of a trinomial of the form $7v^2 + ? v +12$. (Don't worry about the signs).

(7v and 12)(v and 1);   (7v and 6)(v and 2);
(7v and 1)(v and 12)   (7v and 2)(v and 6)

(7v and 4)(v and 3);
(7v and 3)(v and 4)

38) $4x^2 + 12x + 5$

    $(2x + 1)(2x + 5)$

41) $4x^2 - 12x + 5$

    $(2x - 1)(2x - 5)$

45) $4x^2 - 8x - 5$

    $(2x + 1)(2x - 5)$

48) $4x^2 + 8x - 5$

36) $4x^2 + 21x + 5$

    $(4x + 1)(x + 5)$

42) $4x^2 - 21x + 5$

    $(4x - 1)(x - 5)$

46) $4x^2 + 19x - 5$

    $(4x - 1)(x + 5)$

49) $4x^2 - 19x - 5$

    $(4x + 1)(x - 5)$

40) $4x^2 + 9x + 5$

43) $4x^2 - 9x + 5$

    $(4x - 5)(x - 1)$

47) $4x^2 + x - 5$

50) $4x^2 - x - 5$

    $(4x - 5)(x + 1)$

44) Give all factor pairs of a trinomial of the form $6x^2 + ? x + 5$. (Don't worry about the signs).

(6x and 5)(x and 1);   (3x and 5)(2x and 1);
(6x and 1)(x and 5)   (3x and 1)(2x and 5)

51) Give all factor pairs of a trinomial of the form $10x^2 + ? x + 3$. (Don't worry about the signs).

(10x and 3)(x and 1);   (5x and 3)(2x and 1);
(10x and 1)(x and 3)   (5x and 1)(2x and 3)

52) $4c^2 + 16c + 15$

    $(2c + 3)(2c + 5)$

58) $4c^2 - 16c + 15$

    $(2c - 3)(2c - 5)$

65) $4c^2 + 23c + 15$

    $(4c + 3)(c + 5)$

71) $4c^2 - 4c - 15$

    $(2c + 3)(2c - 5)$

53) $4c^2 + 17c + 15$

59) $4c^2 - 17c + 15$

    $(4c - 5)(c - 3)$

66) $4c^2 + 4c - 15$

    $(2c - 3)(2c + 5)$

72) $4c^2 - 23c + 15$

    $(4c - 3)(c - 5)$

54) $4c^2 - 17c - 15$

    $(4c + 3)(c - 5)$

60) $4c^2 + 17c - 15$

    $(4c - 3)(c + 5)$

67) $4c^2 - 59c - 15$

    $(4c + 1)(c - 15)$

73) $4c^2 - 19c + 15$

    $(4c - 15)(c - 1)$

55) $4c^2 - 32c + 15$

    $(2c - 3)(2c - 5)$

61) $4c^2 + 32c + 15$

68) $4c^2 + 19c + 15$

74) $4c^2 + 59c - 15$

69) $4c^2 + 28c - 15$

    $(2c - 1)(2c + 15)$

75) $4c^2 - 7c - 15$

    $(4c + 5)(c - 3)$

56) $4c^2 + 11c - 15$

    $(4c + 15)(c - 1)$

62) $4c^2 - 11c - 15$

    $(4c - 15)(c + 1)$

70) $4c^2 + 7c - 15$

76) $4c^2 - 28c - 15$

57) $4c^2 + 61c + 15$

63) $4c^2 - 61c + 15$

77) Give all factor pairs of a trinomial of the form $15c^2 + ? c + 4$. (Don't worry about the signs).

(15c and 4)(c and 1);   (15c and 2)(c and 2);
(15c and 1)(c and 4)   (15c and 2)(c and 2)- Same

64) Give all factor pairs of a trinomial of the form $6c^2 + ? c + 10$. (Don't worry about the signs).

(6c and 10)(c and 1);   (6c and 5)(c and 2);
(6c and 1)(c and 10)   (6c and 2)(c and 5)

(3c and 10)(2c and 1);   (3c and 5)(2c and 2);
(3c and 1)(2c and 10)   (3c and 2)(2c and 5)

(5c and 4)(3c and 1);   (5c and 2)(3c and 2);
(5c and 1)(3c and 4)   (5c and 2)(3c and 2)- Same

78) $5k^2 + 17k + 6$

82) $5k^2 + 13k + 6$
    $(5k + 3)(k + 2)$

87) $5k^2 + 31k + 6$

91) $5k^2 + 11k + 6$
    $(5k + 6)(k + 1)$

79) $5k^2 - 13k + 6$
   $(5k - 3)(k - 2)$

83) $5k^2 - 31k + 6$
   $(5k - 1)(k - 6)$

88) $5k^2 - 11k + 6$
   $(5k - 6)(k - 1)$

92) $5k^2 - 13k - 6$

80) $5k^2 + 29k - 6$
   $(5k - 1)(k + 6)$

84) $5k^2 + k - 6$
   $(5k + 6)(k - 1)$

89) $5k^2 + 13k - 6$
   $(5k - 2)(k + 3)$

93) $5k^2 + 7k - 6$
   $(5k - 3)(k + 2)$

81) $5k^2 - k - 6$

85) $5k^2 - 17k + 6$
   $(5k - 2)(k - 3)$

90) $5k^2 - 7k - 6$

94) $5k^2 - 29k - 6$
   $(5k + 1)(k - 6)$

86)   Give all factor pairs of a trinomial of the form $4k^2 + ? k + 9$. (Don't worry about the signs).

(4k and 9)(k and 1);   (4k and 3)(k and 3);
(4k and 1)(k and 9)   (4k and 3)(k and 3)-Same

(2k and 9)(2k and 1);   (2k and 3)(2k and 3);
(2k and 1)(2k and 9)   (2k and 3)(2k and 3)
-Same   -Same

95)   Give all factor pairs of a trinomial of the form $8k^2 + ? k + 6$. (Don't worry about the signs).

(8k and 6)(k and 1);   (8k and 3)(k and 2);
(8k and 1)(k and 6)   (8k and 2)(k and 3)

(4k and 6)(k and 1);   (4k and 3)(k and 2);
(4k and 1)(k and 6)   (4k and 2)(k and 3)

96) $3v^2 + 11v + 10$
   $(3v + 5)(v + 2)$

99) $6v^2 + 11v - 2$
    $(6v - 1)(v + 2)$

103) $9c^2 - 16$
    $(3c - 4)(3c + 4)$

106) $6a^2 + 5a - 6$
    $(2a + 3)(3a - 2)$

97) $6v^2 + 15v - 21$
    $3(2v + 7)(v - 1)$

100) $18k^2 - 18k + 4$
    $2(3k - 2)(3k - 1)$

104) $12c^2 - 6c - 60$
    $6(2c - 5)(c + 2)$

107) $5a^2 + 12a + 4$
    $(5a + 2)(a + 2)$

98) $5k^2 + 19k + 12$
   $(5k + 4)(k + 3)$

101) $4k^2 - 12k + 9$
    $(2k - 3)(2k - 3)$

105) $24a^2 + 42a + 9$
    $3(4a + 1)(2a + 3)$

108) $3v^2 - 7v + 4$
    $(3v - 4)(v - 1)$

102)   Give all factor pairs of a trinomial of the form $3x^2 + ? x + 8$. (Don't worry about the signs).

(3x and 8)(x and 1);   (3x and 4)(2x and 2);
(3x and 1)(x and 8)   (3x and 2)(2x and 4)

109)   Give all factor pairs of a trinomial of the form $5x^2 + ? x + 12$. (Don't worry about the signs).

(5x and 12)(x and 1);   (5x and 6)(x and 2);
(5x and 1)(x and 12)   (5x and 2)(x and 6)

(5x and 4)(x and 3);
(5x and 3)(x and 4)

110) $10t^2 + 15t + 10$
    $5(2t + 1)(t + 2)$

111) $7t^2 + 17t + 6$
    $(7t + 3)(t + 2)$

112) $8m^2 + 24m + 18$
    $2(2m + 3)(2m + 3)$

113) $12m^2 + 8m - 32$
    $4(3m - 4)(m + 2)$

114) $4n^2 - 1$
    $(2n + 1)(2n - 1)$

115) $8n^2 - 13n - 6$
    $(8n + 3)(n - 2)$

116) Give all factor pairs of a trinomial of the form $6m^2 + ? m + 21$. (Don't worry about the signs).

(6m and 21)(m and 1);   (6m and 7)(m and 3);
(6m and 1)(m and 21)   (6m and 3)(m and 7)

(3m and 21)(2m and 1);   (3m and 7)(2m and 3);
(3m and 1)(2m and 21)   (3m and 3)(2m and 7)

117) $5d^2 - 19d + 12$
    $(5d - 4)(d - 3)$

118) $4d^2 + 7d - 36$
    $(4d - 9)(d + 4)$

119) $27t^2 - 75$
    $3(3t - 5)(3t + 5)$

120) $9t^2 + 24t + 16$
    $(3t + 4)(3t + 4)$

121) $6b^2 + 29b + 20$
    $(6b + 5)(b + 4)$

122) $6v^2 + 34v + 48$
    $2(3v + 8)(v + 3)$

123) Give all factor pairs of a trinomial of the form $8m^2 + ? m + 18$. (Don't worry about the signs).

(8m and 18)(m and 1);   (8m and 9)(m and 2);
(8m and 1)(m and 18)   (8m and 2)(m and 9)

(8m and 6)(m and 3);
(8m and 3)(m and 6)

(4m and 18)(2m and 1);   (4m and 9)(2m and 2);
(4m and 1)(2m and 18)   (4m and 2)(2m and 9)

(4m and 6)(2m and 3);
(4m and 3)(2m and 6)