

Key

Factor the following expressions.

(1) $x^2 + 2x - 15$

$$\begin{array}{r} -15 \\ -3 \quad 5 \\ 2 \end{array}$$

$$(x-3)(x+5)$$

$$x^2 - 3x + 5x - 15$$

$$x^2 + 2x - 15 \checkmark$$

1, 3, 5, 15

(2) $x^2 - 11x + 24$

$$\begin{array}{r} 24 \\ -3 \quad -8 \\ -11 \end{array}$$

$$(x-3)(x-8)$$

$$x^2 - 3x - 8x + 24$$

$$x^2 - 11x + 24 \checkmark$$

1, 2, 3, 4, 6, 8, 12, 24

(3) $x^2 + 8x + 15$

$$\begin{array}{r} 15 \\ 3 \quad 5 \\ 8 \end{array}$$

$$(x+3)(x+5)$$

$$x^2 + 3x + 5x + 15$$

$$x^2 + 8x + 15 \checkmark$$

1, 3, 5, 15

(4) $5x^2 + 11x + 2$

$$\begin{array}{r} 10 \\ 5 \quad 1 \\ 11 \end{array}$$

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

$$5x^2 + 10x + x + 2$$

$$5x^2 + 11x + 2 \checkmark$$

1, 2, 5, 10

(5) $3x^2 + 4x - 15$

$$\begin{array}{r} -45 \\ 5 \quad 9 \\ 3 \quad 4 \end{array}$$

$$(3x-5)(x+3)$$

$$3x^2 - 5x + 9x - 15$$

$$3x^2 + 4x - 15 \checkmark$$

1, 3, 5, 9, 15, 45

* (6) $16x^2 - 81$

$$(4x-9)(4x+9)$$

$$16x^2 - 36x + 36x - 81$$

$$16x^2 - 81 \checkmark$$

$$\sqrt{16x^2} = 4x$$

$$\sqrt{81} = 9$$

* (8) $4d^2 - 4d - 35$

$$\begin{array}{r} -30 \\ 10 \quad -3 \\ 7 \end{array}$$

$$(3t+5)(2t-1)$$

$$3t^2 - 3t + 10t - 5$$

$$3t^2 + 7t - 5 \checkmark$$

1, 2, 3, 5, 7, 10, 15, 30

$$\begin{array}{r} -140 \\ -7 \quad -14 \\ 4 \quad -4 \end{array}$$

$$(2d-7)(2d+5)$$

$$4d^2 + 10d - 14d - 35$$

$$4d^2 - 4d - 35 \checkmark$$