

Expand using the Box Method

$$(2d - 3)(4d - 7)$$

| | | | |
|----|-------------------|--------|----|
| | | 2d | -3 |
| 4d | $8d^2$ | $-12d$ | |
| -7 | $-14d$ | $+21$ | |
| | $8d^2 - 26d + 21$ | | |

Given the Box, factor back into the two binomials

Find GCF of the top row. $\rightarrow 6g$?

| | | |
|--------|---------|--------|
| | $3g$? | -4 ? |
| | $18g^2$ | $-24g$ |
| -5 ? | $-15g$ | $+20$ |

$(3g - 4)(6g - 5)$

| | | |
|--------|--------|---------|
| | $4x$? | $? - 7$ |
| $2x$? | $8x^2$ | $-14x$ |
| 1 ? | $+36x$ | -63 |

| | | |
|--------|---------|-------|
| | $8Q$? | 9 ? |
| $3Q$? | $24Q^2$ | $+9Q$ |
| 1 ? | $+8Q$ | $+3$ |

| | | |
|--------|--------|--------|
| | $2a$? | -3 ? |
| $2a$? | $4a^2$ | $-6a$ |
| -3 ? | $-6a$ | $+9$ |

A quadratic in Standard Form:

$$ax^2 + bx + c$$

a is the coefficient of the squared term also called the quadratic term

b is the coefficient of the linear term

c is the constant

Factor into 2 binomials.

$$2a^2 + 13a + 21$$

$$\begin{aligned} a &= 2 \\ b &= 13 \\ c &= 21 \end{aligned}$$

