one centered formula, without label:

$$ax^2 + bx + c = 0$$

one centered formula, with label:

$$ax^2 + bx + c = 0 \tag{1}$$

several centered formulas, without label:

$$\begin{aligned} ax + b &= 0 \\ ax^2 + bx + c &= 0 \\ ax^3 + bx^2 + cx + d &= 0 \end{aligned}$$

several centered formulas, one label for all of them:

$$\begin{aligned} ax + b &= 0 \\ ax^2 + bx + c &= 0 \\ ax^3 + bx^2 + cx + d &= 0 \end{aligned} \tag{2}$$

several centered formulas, each with its own label

$$ax + b = 0 \tag{3}$$
$$ax^2 + bx + c = 0 \tag{4}$$
$$ax^3 + bx^2 + cx + d = 0 \tag{5}$$

several formulas, any alignment, without label:

$$\begin{aligned} 10xy^2 + 15x^2y - 5xy &= 5\left(2xy^2 + 3x^2y - xy\right) = \\ &= 5x\left(2y^2 + 3xy - y\right) = \\ &= 5xy\left(2y + 3x - 1\right) \end{aligned}$$

several formulas, any alignment, each with its own label:

$$\begin{aligned} 10xy^2 + 15x^2y - 5xy &= 5\left(2xy^2 + 3x^2y - xy\right) = && (6) \\ &= 5x\left(2y^2 + 3xy - y\right) = && (7) \\ &= 5xy\left(2y + 3x - 1\right) && (8) \end{aligned}$$

several formulas, any alignment, one label for all of them

$$\begin{aligned} 10xy^2 + 15x^2y - 5xy &= 5\left(2xy^2 + 3x^2y - xy\right) = \\ &= 5x\left(2y^2 + 3xy - y\right) = && (9) \\ &= 5xy\left(2y + 3x - 1\right) \end{aligned}$$

splitting a long formula on several lines. The first line is left-aligned, the last one is right-aligned, all the

others are centered:.

$$(1+x)^n = 1 + nx + \frac{n\,(n-1)}{2!}x^2 + \\ + \frac{n\,(n-1)\,(n-2)}{3!}x^3 + \\ + \frac{n\,(n-1)\,(n-2)\,(n-3)}{4!}x^4 + \dots \quad (10)$$

subordinate numbering:

$$ax + b = 0 \quad (11a)$$
$$ax^2 + bx + c = 0 \quad (11b)$$
$$ax^3 + bx^2 + cx + d = 0 \quad (11c)$$

boxed formula:

$$\boxed{ax^2 + bx + c = 0}$$