

$$x^2 + 6x + \boxed{3^2}$$

$\frac{\quad}{2}$

↓

$$(x+3)^2$$

$$x^2 + 6x - 7 = 0$$

SET
UP

$$x^2 + 6x + \boxed{9} = 7 + \boxed{9}$$

$\frac{\quad}{2}$

√

$$(x+3)^2 = \sqrt{16}$$

$$x+3 = \pm 4$$

$$x = -3 \pm 4$$

$$x = 1, -7$$

$$\frac{2x^2 - 20x + 60 = 0}{2}$$

$$x^2 - 10x + 30 = 0$$

$$x^2 - 10x + \boxed{25} = -30 + \boxed{25}$$

$$(x-5)^2 = -5$$

$$x-5 = \pm i\sqrt{5}$$

$$x = 5 \pm i\sqrt{5}$$

Verfahren

$$y = x^2 - 22x + 16$$

$$y - 16 + \boxed{121} = x^2 - 22x + \boxed{121}$$

$$y + 105 = (x - 11)^2$$

$$y = (x - 11)^2 - 105$$

$$\text{Vertex } (11, -105)$$

$$f(x) = x^2 + 2x - 48$$

$$f(x) + 48 + \boxed{1} = x^2 + 2x + \boxed{1}$$

$$f(x) + 49 = (x + 1)^2$$

$$f(x) = (x + 1)^2 - 49$$

$$\text{Vertex } (-1, -49)$$