

Aufgabe 1

$$k: y = 5x^2 + 2x + 9$$

$$y \rightarrow -y$$

$$k': -y = 5x^2 + 2x + 9$$

$$k': y = -5x^2 - 2x - 9$$

Aufgabe 2

$$k: y = 5x^2 + 4x + 6$$

$$x \rightarrow -x$$

$$k': y = 5(-x)^2 + 4(-x) + 6$$

$$k': y = 5x^2 - 4x + 6$$

Aufgabe 3

$$k: y = 5x^2 - 3x + 2$$

$$x \rightarrow x + 3$$

$$k': y = 5(x + 3)^2 - 3(x + 3) + 2$$

$$k': y = 5x^2 + 27x + 38$$

Aufgabe 4

$$k: y = 5x^2 - 4x - 1$$

$$y \rightarrow y - 4$$

$$k': y - 4 = 5x^2 - 4x - 1$$

$$k': y = 5x^2 - 4x + 3$$

Aufgabe 5

$$k: y = 5x^2 - 4x + 4$$

$$x \rightarrow 3x$$

$$k': y = 5(3x)^2 - 4(3x) + 4$$

$$k': y = 45x^2 - 12x + 4$$

Aufgabe 6

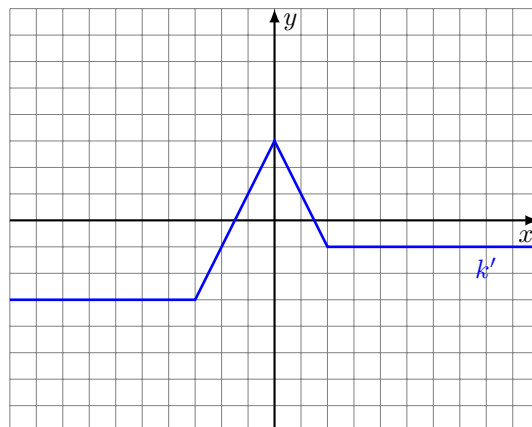
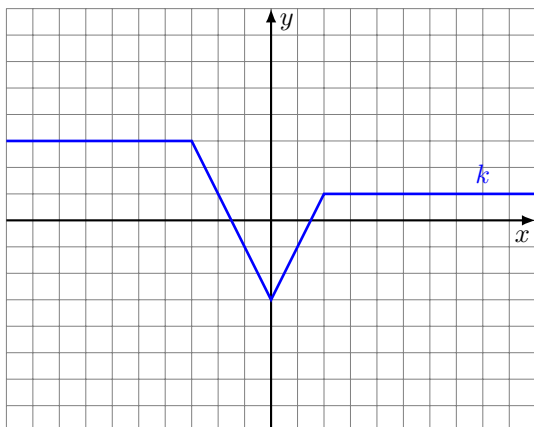
$$k: y = 5x^2 + 5x + 1$$

$$y \rightarrow 2y$$

$$k': 2y = 5x^2 + 5x + 1$$

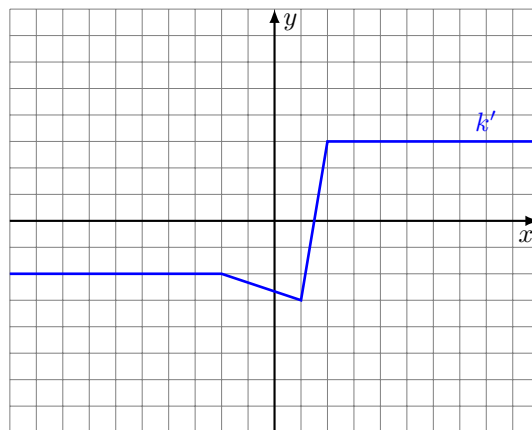
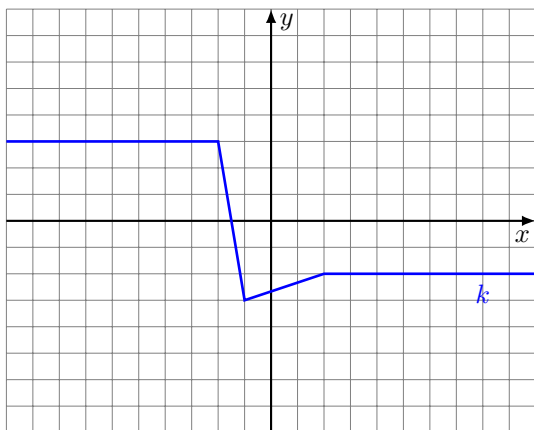
$$k': y = \frac{5}{2}x^2 + \frac{5}{2}x + \frac{1}{2}$$

Aufgabe 7



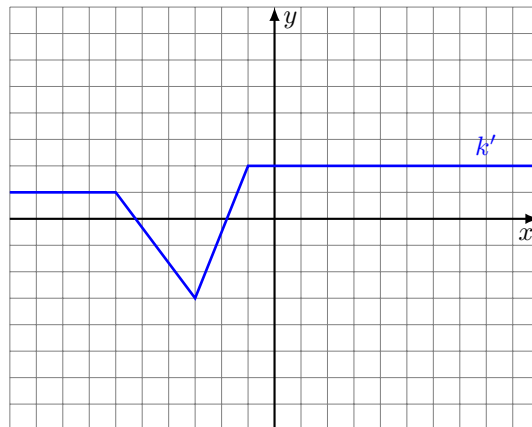
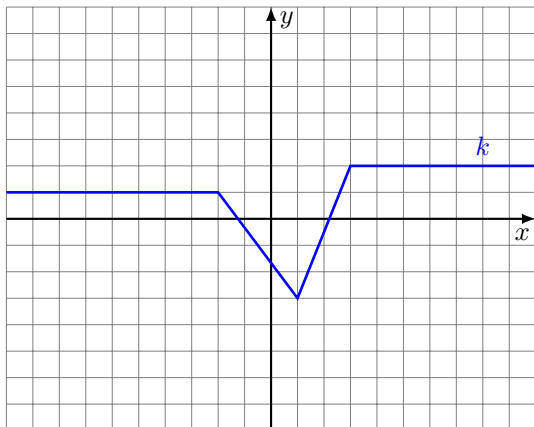
Spiegelung an der x -Achse: $y \rightarrow -y$

Aufgabe 8



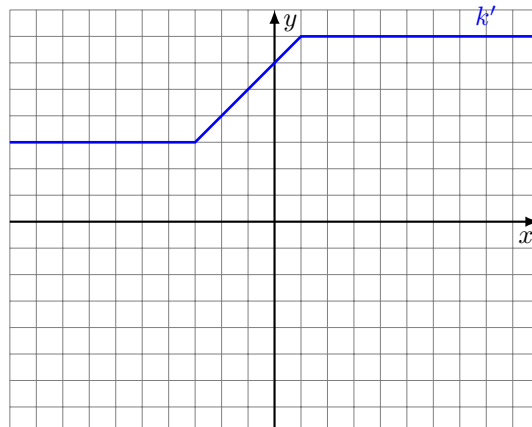
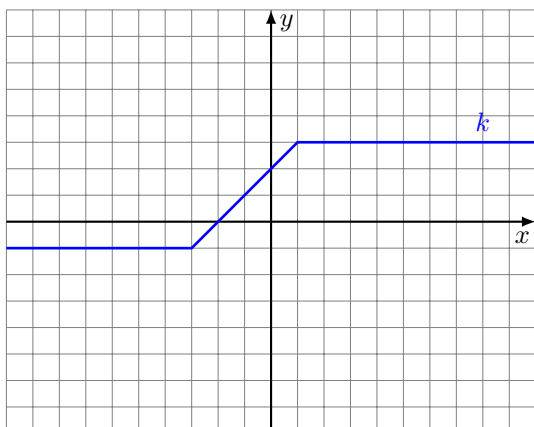
Spiegelung an der y -Achse: $x \rightarrow -x$

Aufgabe 9



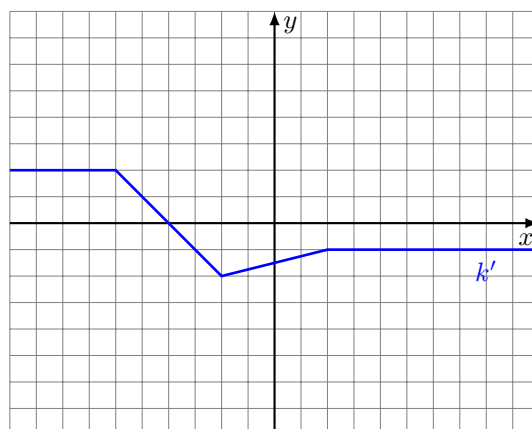
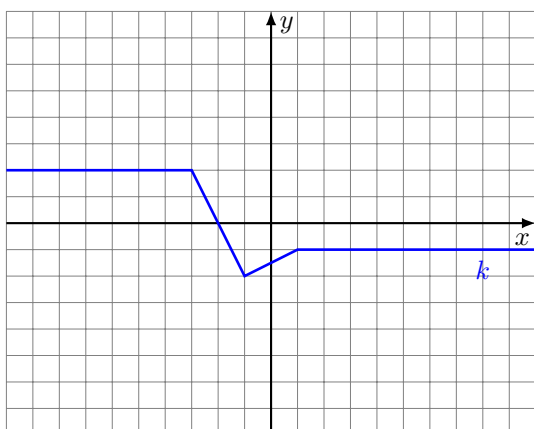
Translation in x -Richtung: $x \rightarrow x + 4$

Aufgabe 10



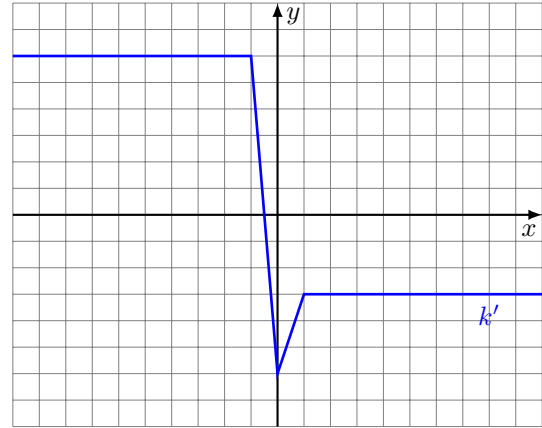
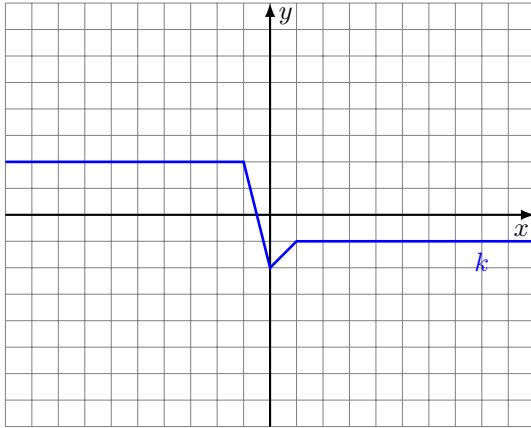
Translation in y -Richtung: $y \rightarrow y + 4$

Aufgabe 11



axiale Streckung in x -Richtung mit Faktor $k = 2$: $x \rightarrow \frac{1}{2}x$

Aufgabe 12



axiale Streckung in y -Richtung mit Faktor $k = 3$: $y \rightarrow \frac{1}{3}y$