

① – Zeichne den Graphen der angegebenen Funktion. Bestimme zunächst den Scheitelpunkt. Gib die Symmetrieachse und die Wertemenge an.

a) $y = x^2 - 5$
 $y = 5 + x^2$

b) $y = (x - 2)^2 + 3$
 $y = (x + 3)^2 - 2$

c) $y = (x + 3,5)^2 - 4$
 $y = (x - 4)^2 + 3,5$

d) $y = (x - 6)^2$
 $y = (x + 6)^2$

a) $y = x^2 - 5$

- $S(0|-5)$
- $x = 0$
- $W = [-5; +\infty[$

$y = 5 + x^2$
 $= x^2 + 5$

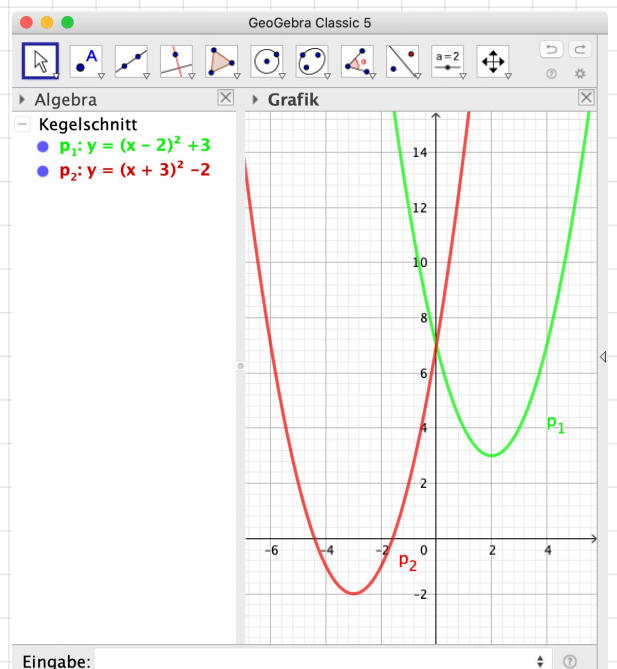
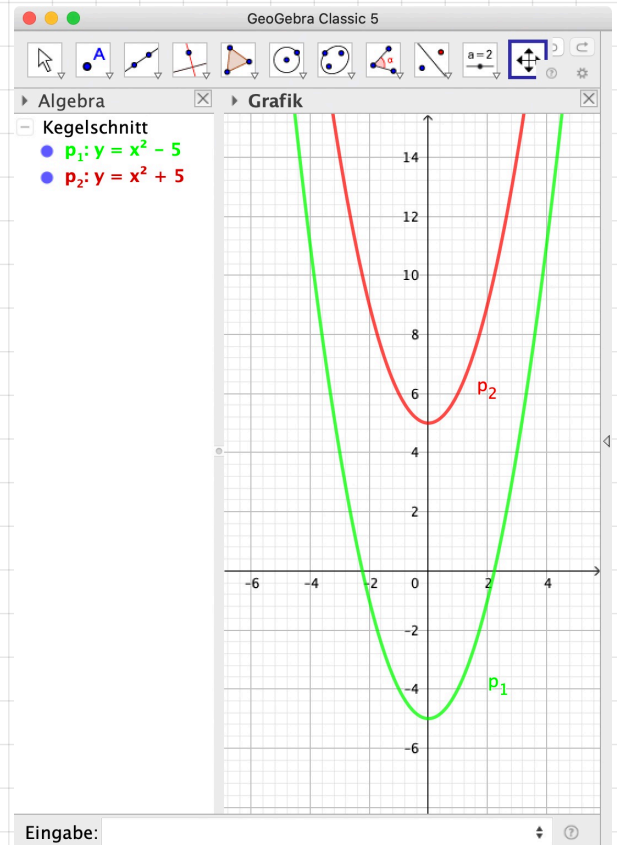
- $S(0|5)$
- $x = 0$
- $W = [5; +\infty[$

b) $y = (x - 2)^2 + 3$

- $S(2|3)$
- $x = 2$
- $W = [3; +\infty[$

$y = (x + 3)^2 - 2$

- $S(-3|-2)$
- $x = -3$
- $W = [-2; +\infty[$

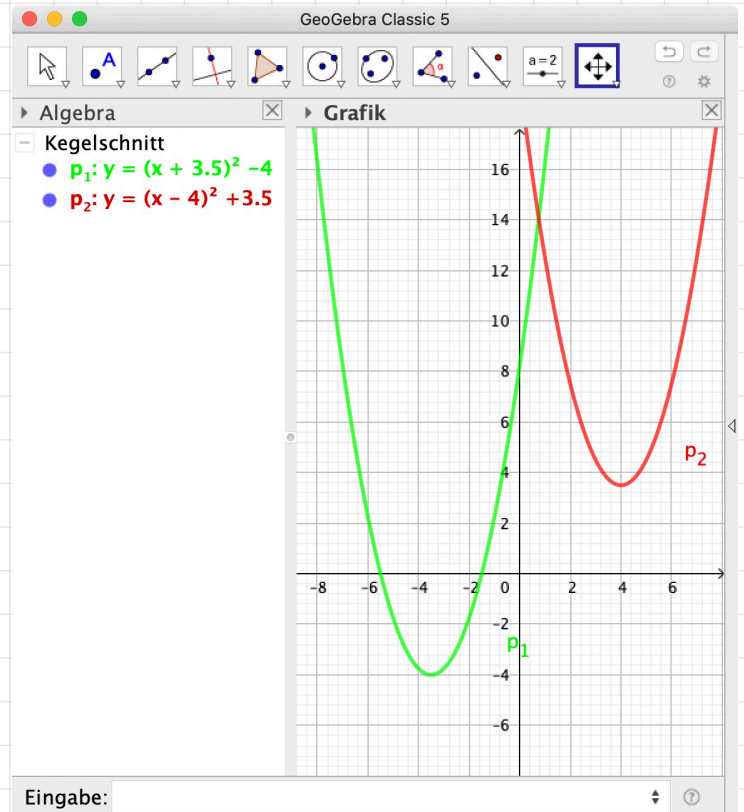


c) $y = (x + 3,5)^2 - 4$

- $S(-3,5 / -4)$
- $x = -3,5$
- $W = \{y \mid y \geq -4\}$

$y = (x - 4)^2 + 3,5$

- $S(4 / 3,5)$
- $x = 4$
- $W = \{y \mid y \geq 3,5\}$



d) $y = (x - 6)^2$

- $S(6 / 0)$
- $x = 6$
- $W = \{y \mid y \geq 0\}$

$y = (x + 6)^2$

- $S(-6 / 0)$
- $x = -6$
- $W = \{y \mid y \geq 0\}$

