Nullstellen über Faktorisieren:

1) Löse die folgenden quadratischen Gleichungen durch Faktorisieren

a) $x^2 + 10x + 25 = 0$

L =

b) $3x^2 - 12 = 0$

L =

c) $x^2 - 1 = 0$

L =

d) $x^2 - 8x + 6 = -10$

L =

e) $4x + 4 = -x^2$

L =

f) $9x^2 - 6x + 4 = 0$

L=

g) $4x^2 = -24x - 36$

L =

h) $a^2 + \frac{1}{36} = \frac{1}{3}a$

L =

i) $x^2 + ¼ = x$

L =

j) $3x^2 - 12x = -12$

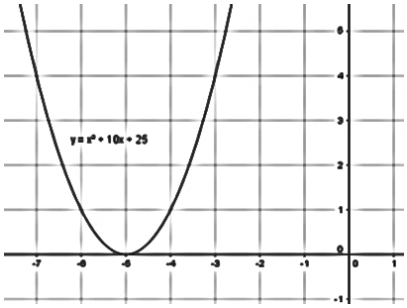
L =

Lösungen:

a) $x^2 + 10x + 25 = 0$

$(x+5)^2 = 0$

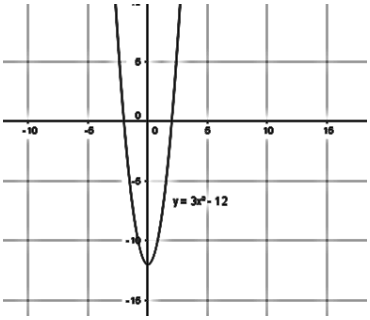
$L = \{-5\}$



b) $3x^2 - 12 = 0$

$x^2 - 4 = 0$ bzw. $(x+2)(x-2) = 0$

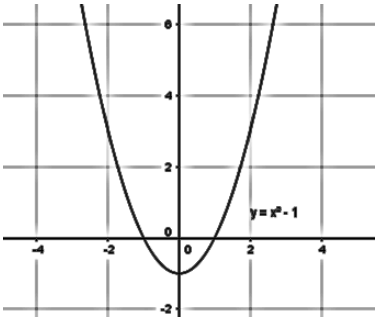
$L = \{-2, 2\}$



c) $x^2 - 1 = 0$

$(x+1)(x-1) = 0$

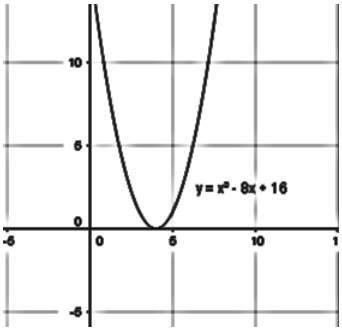
$L = \{-1;1\}$



d) $x^2 - 8x + 6 = -10$

$(x-4)^2 = 0$

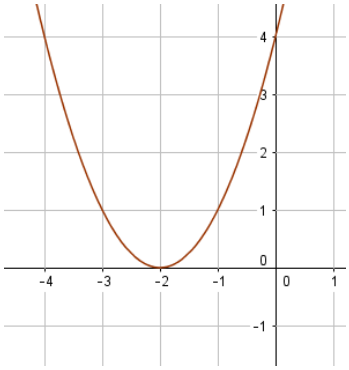
$L = \{4\}$



e) $4x + 4 = -x^2$

$(x+2)^2$

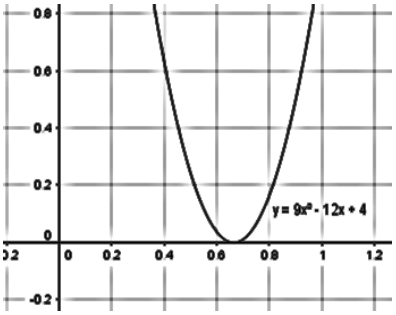
$L = \{-2\}$



f) $9x^2 - 12x + 4 = 0$

$x^2 - \frac{4}{3}x + \frac{4}{9} = (x-\frac{2}{3})^2$

$L = \{\frac{2}{3}\}$

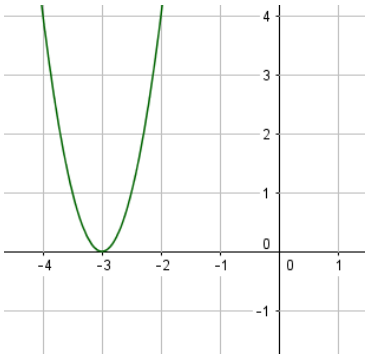


g) $4x^2 = -24x - 36$

$x^2 + 6x + 9 = 0$

$(x+3)^2 = 0$

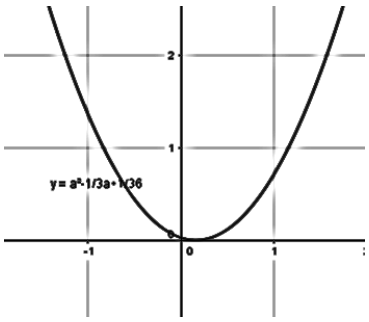
$L = \{3\}$



h) $a^2 + \frac{1}{36} = \frac{1}{3}a$

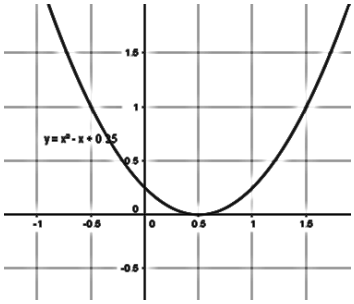
$(a - \frac{1}{6})^2$

$L = \{\frac{1}{6}\}$



i) $x^2 + ¼ = x$

$L = \{½\}$



j) $3x^2 - 12x = -12$

$L = (2)$