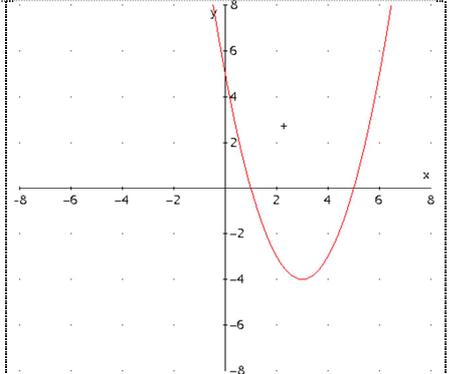
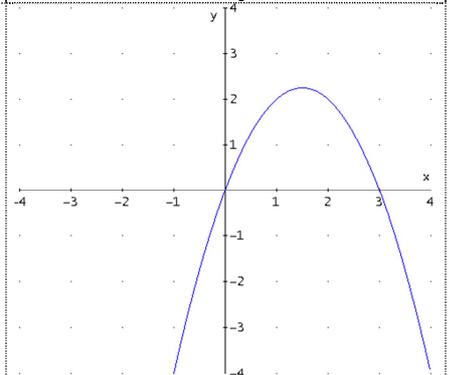
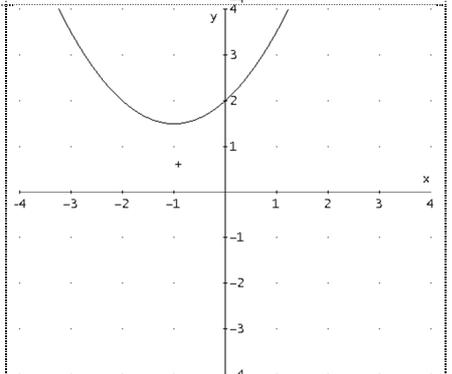
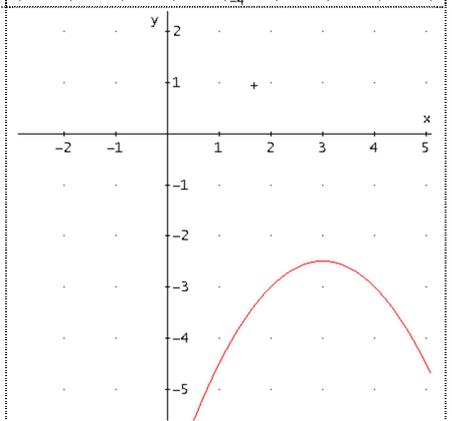


Oberstufe Mathematik

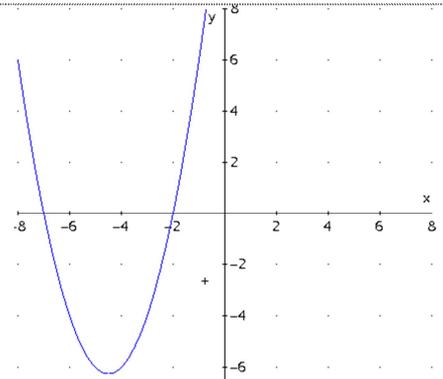
Wiederholung von Grundlagen – 1 - Lösungen

1. Nullstellen, Scheitel und Graphen:

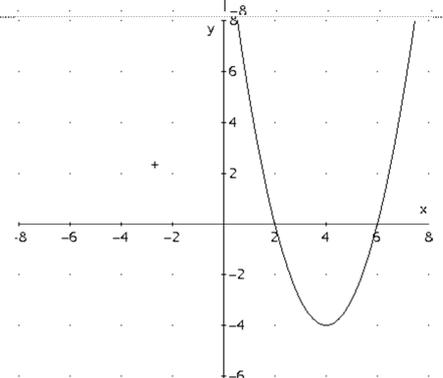
<p>a) $f(x) = x^2 - 6x + 5$</p>	<p>Lösen der Quad.Gl. liefert: Nst: (1;0); (5;0)</p>	<p>Scheitel über die erste Ableitung oder Scheiteltrafo: S(3;-3)</p>	
<p>b) $f(x) = -x^2 + 3x$</p>	<p>Ausklammern! Nst: (0;0); (3;0)</p>	<p>Scheitel: S(1,5; 2,25)</p>	
<p>c) $f(x) = 0,5x^2 + x + 2$</p>	<p>keine Nullstellen! (Diskriminante = 0)</p>	<p>Scheitel: S(-1; 1,5)</p>	
<p>d) $f(x) = -0,5x^2 + 3x - 7$</p>	<p>keine Nullstellen! (Diskriminante = 0)</p>	<p>Scheitel: S(3; -2,5)</p>	

2. Terme als Produkt und die Graphen:

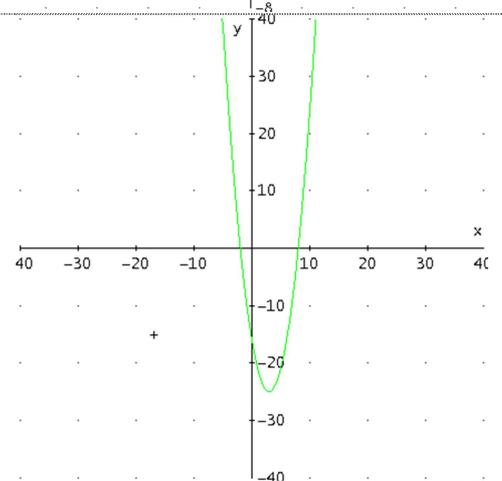
a) $f(x) = x^2 + 9x + 14$ Satz von Vieta oder Lösung der Quad.Gl. liefert:
 $f(x) = (x + 2)(x + 7)$



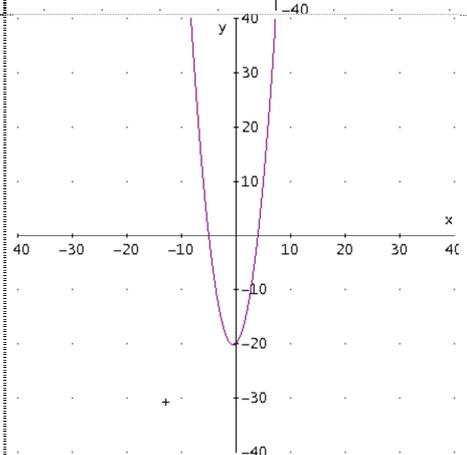
b) $f(x) = x^2 - 8x + 12$ analog: $f(x) = (x - 2)(x - 6)$



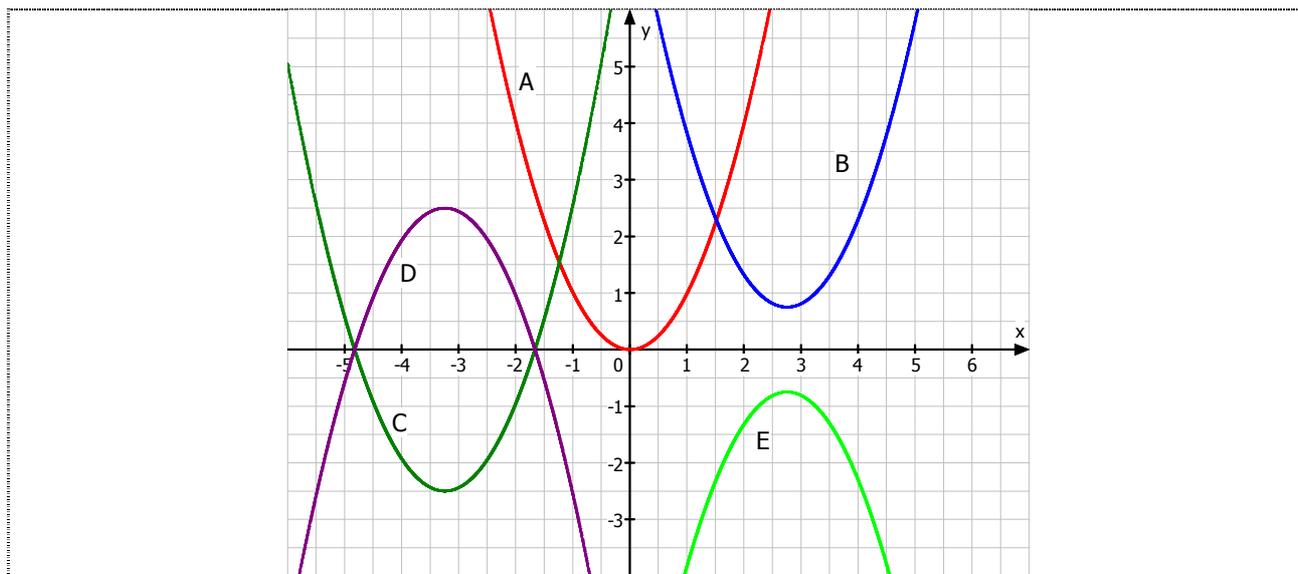
c) $f(x) = x^2 - 6x - 16$ analog: $f(x) = (x + 2)(x - 8)$



d) $f(x) = x^2 + x - 20$ analog: $f(x) = (x - 4)(x + 5)$



3. Bestimme die Terme der zu den Graphen G_a bis G_e gehörigen Funktionen:



a) $f(x) = x^2$

b) $f(x) = \left(x - \frac{11}{4}\right)^2 + \frac{3}{4}$

c) $f(x) = \left(x + \frac{13}{4}\right)^2 - \frac{5}{2}$

d) $f(x) = -\left(x + \frac{13}{4}\right)^2 + \frac{5}{2}$

e) $f(x) = -\left(x - \frac{11}{4}\right)^2 - \frac{3}{4}$