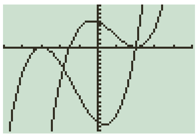
S. 128 Nr. 7

zu a) $f(x)=(x+1{,}5)\cdot(x-2)^2$

$g(x)=(x+3)^2\cdot(x-2)$

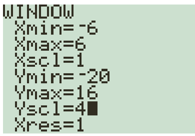
zu b)

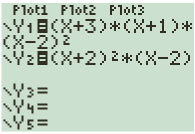


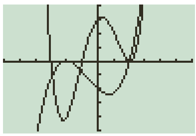
zu c) Wenn der Graph die x – Achse berührt.

zu d) $f'(x_0) = 0$, da das Berühren einen Monotoniewechsel der Funktion und damit Vorzeichenwechsel der Ableitung bedingt.

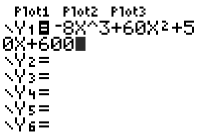
zu e) rot: $f(x) = (x+3)\cdot(x+1)\cdot(x-2)^2$
blau: $g(x) = (x+2)^2\cdot(x-2)$

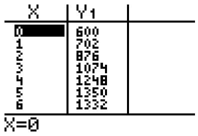


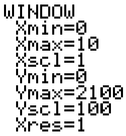


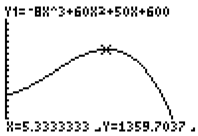


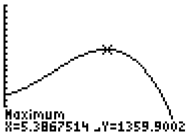
S. 130 Nr. 15

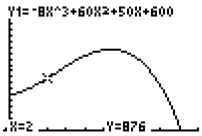












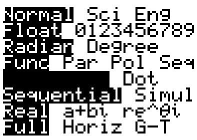
zu a) h(5:20min) = h(5,333333) =1359,7 m oder HP(5:23min/1359,9m)

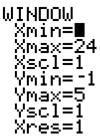
Wie man es rechnet, es ist egal → 1360 m (auf cm kommt es hier nicht an)

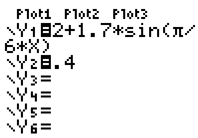
Aber eine Bergstation muss nicht unbedingt auf dem Gipfel liegen, weshalb 1359,7m die exakte Lösung ist.

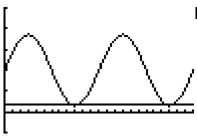
zu b) h(2) = 876 m; die 2000 m – Grenze wird nie erreicht.

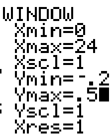
S. 130 Nr. 16

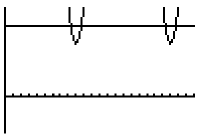




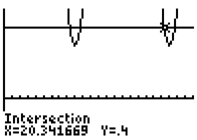


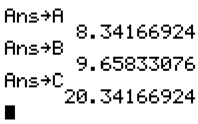


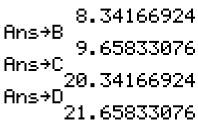


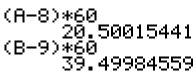


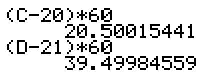
Man rechnet die vier Schnittpunkte aus:











Man könnte 8.21 Uhr los laufen und müsste spätestens 9.39 Uhr ankommen, hätte also 1:18 h Zeit.

20.21 könnte man den Rückweg beginnen und hätte genau so viel Zeit, wie für den Hinweg.

Es ist aber nicht zu empfehlen, so einen Weg in der Dunkelheit zu gehen, so dass diese Möglichkeit, auch wegen der Wassertemperatur, nur im Sommer zu empfehlen ist.