**Verschiedene Berechnungsaufgaben**

1. Eine Tiefgaragenrampe wird **mit 9% Längsgefälle** gebaut.

Die Tiefgarageneinfahrt liegt **2,25 m** tiefer als der Anschluss bei der Strasse.

Wie lang muss die Rampe gebaut werden?

1. Die **Stufenhöhe** einer Treppe sei **12 cm**. Auf dem geplanten **Zwischenpodest** sollen

**3 Schritte** gemacht werden.

Welche **Podestlänge** ergibt sich?

1. Treppe X) ist in das Gelände verlegt. Skizziere den **Schnitt** unten links.

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| Grundriss:Treppe X2a | Skizze im **Schnitt** zu Grundriss links |

Wie nennt sich die Fachbezeichnung für die Art **Geländeeinfügung** der oben abgebildeten Treppe X?

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Wie gross ist die Böschungsneigung bei Typ X) bei **Stufenhöhe 17 cm ?**

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1. Aus Blockstufen mit den Massen **36/17** wird ein Treppenlauf erstellt.

Am Fuss der ersten Stufe beträgt die Höhe ±0.00 m.

Der Treppenlauf überwindet einen **Höhenunterschied von 89** cm. Beantworten Sie folgende Fragen.

1. Wie viele Stufen braucht es?
2. Wie gross ist die Steigung?
3. Wie gross ist die Auftrittstiefe?
4. Wie lange wird der Treppenlauf?
5. In der Skizze ist bei **allen** Stufen - jeweils an der Vorderkante – die Höhe einzutragen.

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1. In eine niedrige Böschung mit der Höhe:**52 cm**) ist eine **halb versenkte** Treppe aus Blockstufen zu erstellen. **(**Betonblockstufen mit Stufenhöhe**: 12cm)**
2. Wie gross ist die **Steigung**?
3. Wie lang wird die **Auftrittstiefe?**
4. Wie viele Stufen werden benötigt?
5. Die Treppe ist im **Schnitt** darzustellen. (ca. M 1: 10 Zeichnung **ohne Fundament**)

(Die einzelnen Blockstufen sind zu zeichnen. Es ist eine Höhenangabe jeweils an der Vorderkante jeder Stufe anzugeben.

1. Zeichnen Sie die **Böschungslinie** ein.
2. Berechnen Sie das **Gefälle der Böschung**. (Resultat auf 2 Stellen nach dem Komma, Angabe in %)

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6) Skizzieren Sie einen **Schnittt** ca. im **M 1 : 10** durch eine **Trittplattentreppe:**

**Vorgaben: (**und dänk dra: 3 Hüseli ufe, 6 Hüseli öbere**)**

 **-** Schnitt durch **2 Stufen** mit Stufenhöhe: 15 cm

 - Höhe Unterkante der ersten Stufe sei: **±0.00**

 - Trittplatte: Gneis 100 x 40 x 5 cm

 - Untermauerungsstein aus Gneis (Höhe 8 cm)

 - Unterschneidung: 5 cm

 - Im Anschluss der Treppe (auf der Unter- und Oberseite) erfolge eine Chaussierung aus Juramergelschotter

 0-16

Erstellen Sie eine vollständige **Skizze** ca. im **M 1 : 10**  mit Vermassung (Höhenangaben und

wichtige Länge) und vollständiger Bezeichnung aller verwendeten Materialien.

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