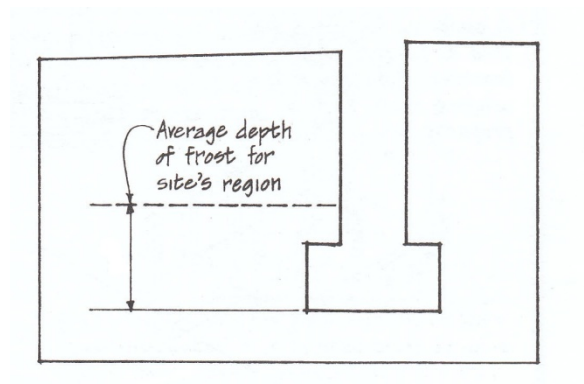


UNIVERSITY of NOTRE DAME  
School of Architecture

**BUILDING TECHNOLOGY I / ARCH 20411 & ARCH 60411**

**QUIZ #10**

1. On any construction project, there are two types of grading:
  - a. Excavation and topsoil removal
  - b. Rough and Finish
  - c. Cut and Fill
  - d. Manual and Mechanized
  
2. In cold climates, \_\_\_\_\_ can cause the ground to heave. (Choose one)
  - a. Water table
  - b. Capillary action
  - c. Hydrostatic Pressure
  - d. Frost action
  
3. Fill in the missing measurement below:



- a. 8"
  - b. 36"
  - c. 12"
  - d. 72"
  
4. Generally, a building can be subdivided into three parts. Name them:
  - (1) **SUPERSTRUCTURE**
  - (2) **SUBSTRUCTURE**
  - (3) **FOUNDATIONS**
  
5. According to your Allen text, which deep foundation system has been in use since Roman times:
  - a. Battered/ rubble wall
  - b. Caisson
  - c. Timber Pile
  - d. Brick Pier

6. When a pile is driven until it encounters rock or dense sands and gravels, it is considered to be **END BEARING**. Alternately, when firm bearing stratum does not exist at a reasonable depth, **FRICTION** piles may be used.
7. When soil conditions close to the surface have adequate bearing strength, the foundation systems most commonly constructed are:
  - a. Deep Systems
  - b. Substructure Systems
  - c. Hybrid Systems
  - d. Shallow Systems
8. A ground slab system is an appropriate foundation system to use in which **one** of the following conditions:
  - a. Non-uniform soil conditions
  - b. Warm climates
  - c. Multi-storied structures (more than two)
  - d. Basement conditions
9. Which **one** of the following is NOT a type of spread footing:
  - a. Cantilever
  - b. Bell
  - c. Well
  - d. Mat
  - e. Wall
  - f. Combined
10. Which type of foundation construction method requires formwork:
  - a. Site-cast concrete
  - b. Concrete block
  - c. Timber pile
  - d. Stone gravity wall

BONUS (1 point):

List the four primary factors that influence the depth of excavation:

- 1) **FROST LINE**
- 2) **WATER TABLE**
- 3) **SUB-GRADE PROGRAM/ OCCUPIED SUBSTRUCTURE/ SPACE SUB-GRADE**
- 4) **SOIL CONDITIONS**