

Engineering Towers Study Guide

NAME _____

Match the definition with the correct word: (Vocabulary)

- | | |
|-----------------|--|
| 1) _____ Pier | a) A large beam used for construction |
| 2) _____ Brace | b) A piece designed to resist pressure in the direction of its length |
| 3) _____ Strut | c) A support for the ends of adjacent spans. |
| 4) _____ Girder | d) A diagonal piece of structural material that serves to strengthen something |

5) Find the efficiency of a 22-gram tower that will hold 240 kilograms.

Efficiency = Mass the tower will hold ÷ by the mass of the tower. (RCA 2)

- a) 11
- b) 16
- c) 9
- d) 8.5

6) What framework is made of triangular-shaped parts? (RCA 2)

- a) Arch
- b) Truss
- c) Triangle Beam
- d) Girder

7) The most important job that all structures have in common is they all have to _____ a load. (Session 2)

8) What is the difference between a static load and a dynamic load? (Session 2)

9) The force on top of horizontal members or beams that are directed toward each other is what kind of force? (Session 3)

- a) Neutral
- b) Beam Force
- c) Compression
- d) Dynamic

10) Compression stress occurs when members are pulled apart. If false what is the correct answer? (Session 3)

- a) True
- b) False

11) What Kind of brace can be added to a square or rectangle to give it strength? (Clue: Look at the braces on your tower you built). (Session 3)

12) There will be one of two forces acting on every piece of wood in your tower when we test it.

These forces are _____ and _____. (Session 4)

13) The triangle is that strongest geometric shape. If false what is the correct answer? (Session 4)

- a) True
- b) False

14) This term is defined as the weight, mass or force on a structure. (Session 4)

15) A rigid member in tension is called a tie. What is a rigid member in compression called? (Session 4)

- a) Diagonal
- b) Pier
- c) Brace
- d) Strut