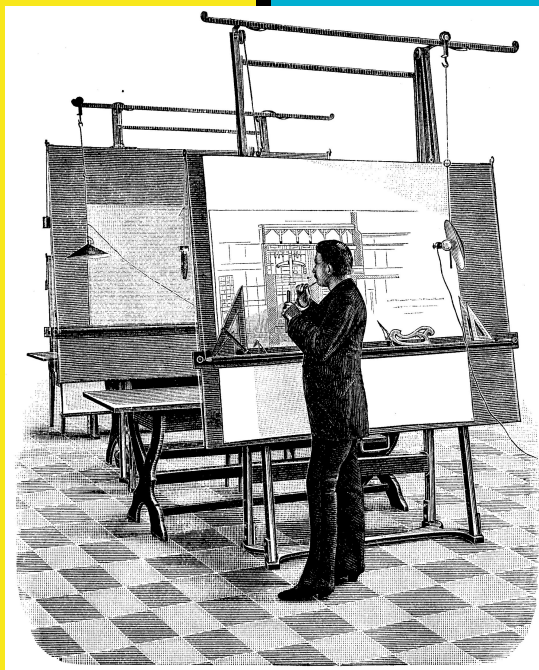


Architect



What does an Architect do?

Architects design buildings and other structures. They make sure buildings are functional, safe, and economical. They draw plans of every part of a building, including the plumbing and electrical systems. They also help choose a building site and decide what materials to use.



Usage of Math

Mathematics is used by architects to express the design images on a drawing that can then be used by construction workers to build that image for everyone to see. Mathematics is needed to analyze and calculate structural problems in order to engineer a solution that will assure that a structure will remain standing and stable. The sizes and shapes of the elements of a design are possible to describe because of mathematical principles.

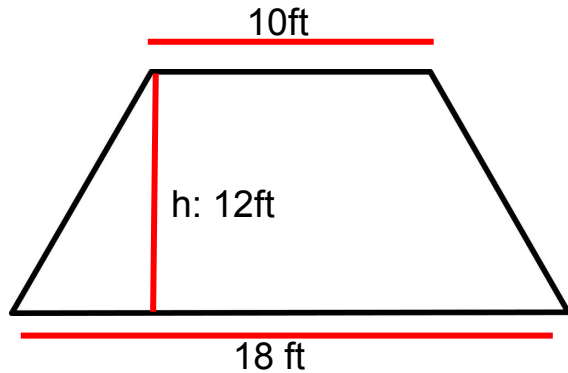
Math Required:

College Algebra, Trigonometry, Calculus I and II, Probability and Statistics, Linear Programming

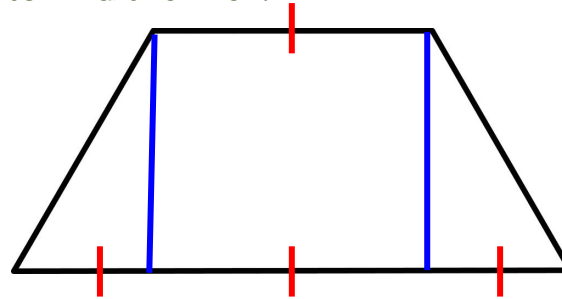


Math Problem

Find the area of the Trapezoid?



Break down the Trapezoid into shapes we know how to find the area.



We get one rectangle and two triangles.

Now we can find the area of the rectangle:

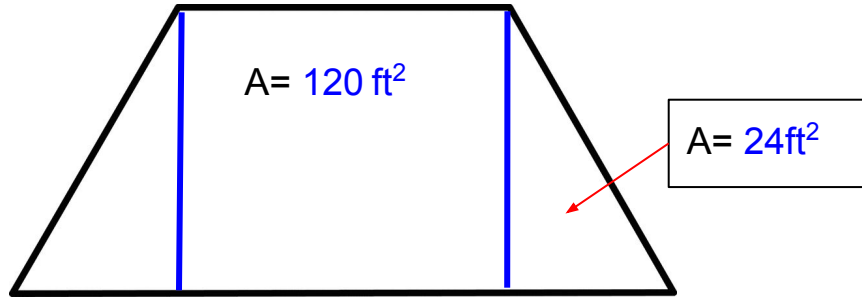
$$10\text{ft} \times 12\text{ft} = 120\text{ft}^2$$

Find the area of one triangle:

$$18\text{ft} - 10\text{ft} = 8\text{ft} \longrightarrow 8\text{ft} \div 2 = 4\text{ft}$$

$$A = \frac{4\text{ft} \times 12\text{ft}}{2} = 24\text{ft}^2$$

Math Problem

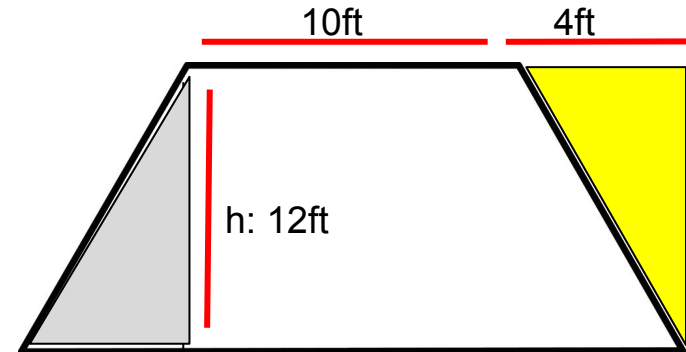


There are two triangles therefore you can multiply the area of one triangle by 2.

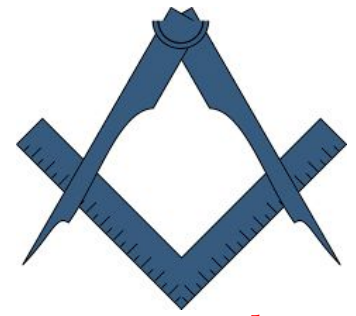
$$24 \text{ ft}^2 \times 2 = 48 \text{ ft}^2$$

Now we can find the area of the trapezoid.

$$120 \text{ ft}^2 + 48 \text{ ft}^2 = 168 \text{ ft}^2$$



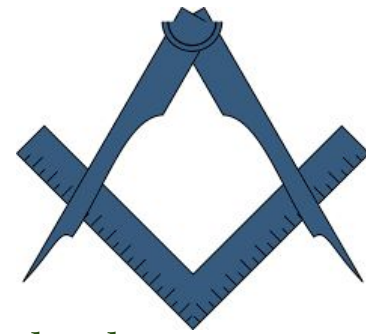
Education



*Bachelor's: **programs last five years and focus on architectural theory, structural design and construction methodology.** Courses generally cover topics like environmental design, architectural documentation and universal design for the disabled. Students also receive instruction in the use of drafting tools and computer-aided design and drafting software.

*Master's: **The National Architectural Accrediting Board** program can take **1-5 years to complete based on a student's previous architectural education.** The program can incorporate paid, professional work in the field, as well as faculty-supervised studio work. **Courses focus on design, engineering and project management.**

Education



*PH.D. : A Ph.D. in Architecture is not a professional degree, but it can lead to research, consulting or teaching positions. Ph.D. in Architecture feature **advanced study of architectural theory and research methodology**. Students may **concentrate in a specific area**, such as **sustainability and building science**. Students may be required to submit a dissertation basis on original research at the end of the program.

*After completing an educational program and an internship period, **architects must pass the NCARB's Architect Registration Examination (ARE)**. Its focus is on testing the architect's knowledge of structure, planning and safe building practices.

Things You Can Achieve with Architecture



Work Cited

<http://weusemath.org/?career=architect>

<http://www.naab.org/about/home>

http://study.com/architect_educational_requirements.html