

CONSTRUCTION MATH

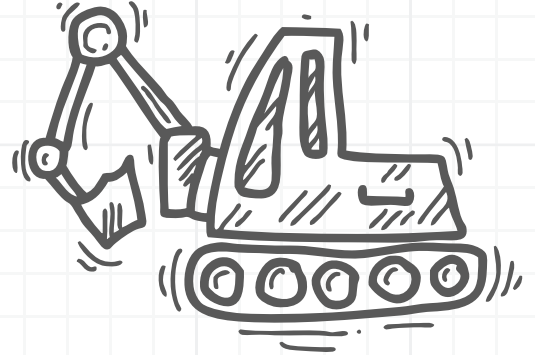
Nabholz Construction utilizes math every...single...day. Check out this example of how we use math to build everything from a parking lot to a 5-story hospital.

SITE WORK

To level a construction site, a total of 75,000 cubic yards of earth must be moved.

The earth will be moved using pans that can each hold 16 cubic yards of earth.

Each pan can make 12 cycles (round trips) in one working day.



Assuming no pans break down, how many pans are needed on site each day to complete the job in 60 working days?

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POURING A CONCRETE SLAB

A shop is to be built on top of a 30' wide by 40' long concrete slab.

The Slab must be 4" thick.



Calculate the amount of concrete, in cubic yards, it will take to pour the slab. Include an additional 5% overage or waste factor. Round your answer to the hundredths place.

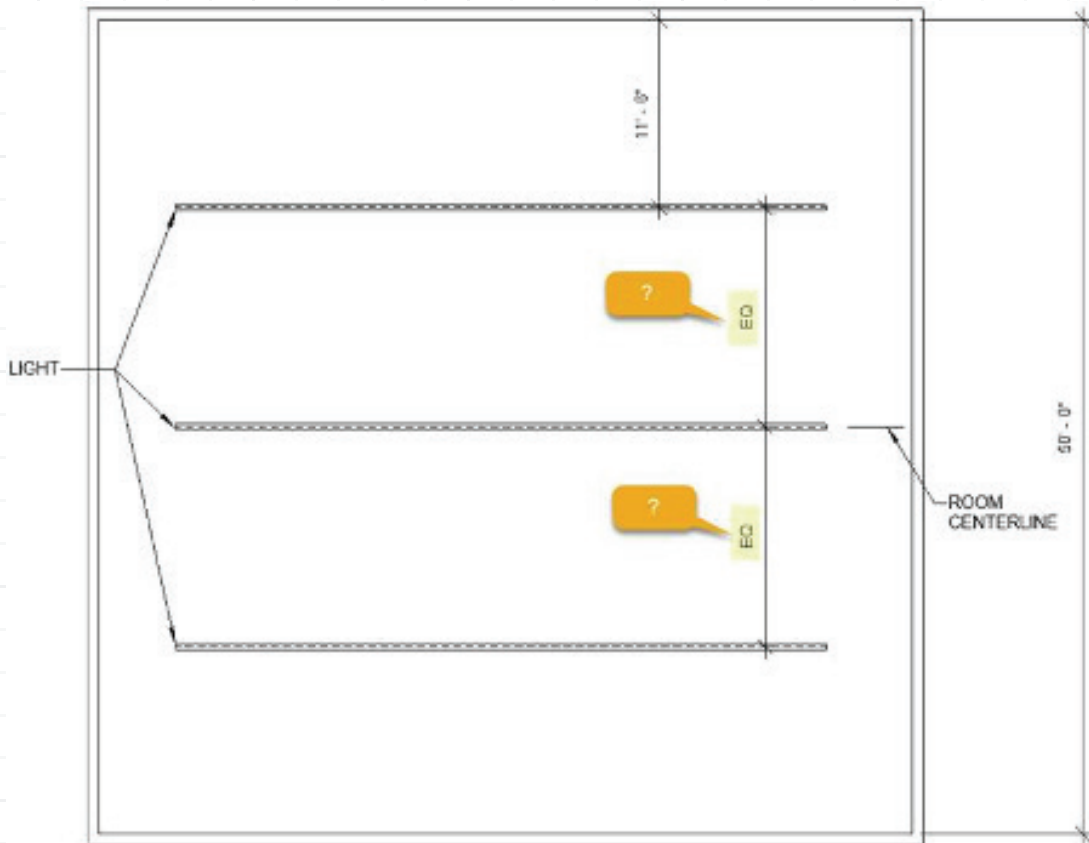
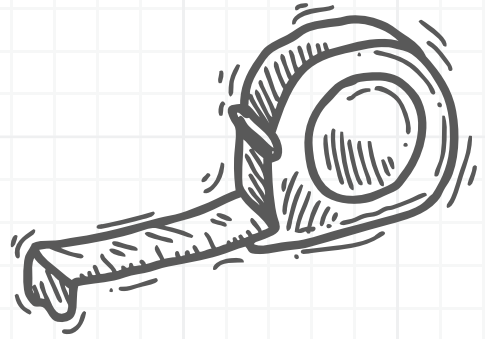
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TURN ON THE LIGHTS

A Nabholz employee needs to hang lights in 3 equally spaced rows across a room that is 50 feet long.

The first and last rows are 11 foot 6 inches away from the walls.

How far apart are each of lights?



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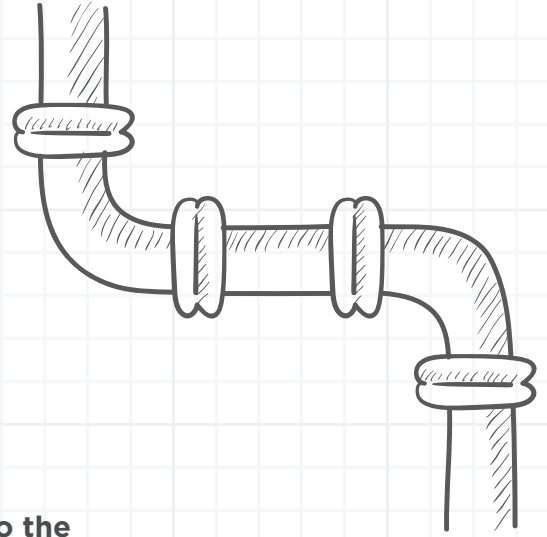
HOW MUCH WATER?

A Nabholz employee needs drain a section of fire sprinkler pipe into a 5 gallon bucket, but before opening up the pipe, she wants to verify that the section of pipe does not contain more water than her bucket will hold.

The inside diameter of the pipe is 2”.

She knows 231 cubic inches equals 1 gallon.

What is the maximum length of pipe she can drain into the bucket without overflowing.

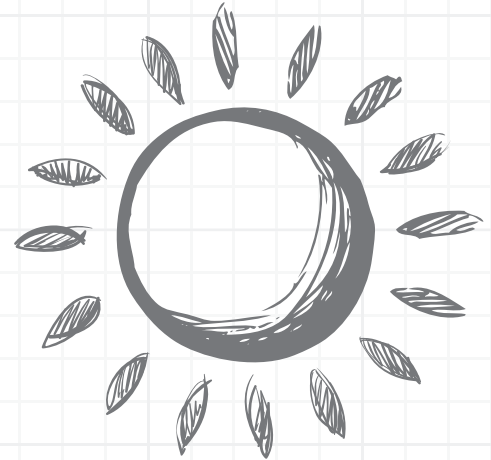


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HERE COMES THE SUN

A 5A school district in Arkansas would like to become more energy efficient. They are looking at solar energy as an option.



1. The district uses 3,675,000 kilowatt-hours (kWh) per year. If 1 kilowatt (kw) of solar produces 1,750 kWh/year, how many kw of solar is needed to offset the district's annual energy consumption?

2. To install 1,000 kw of solar the school would need ~5 acres of land. Using the example above, how many acres would the district need to build a solar array?

3. If the district typically paid \$.085/kWh for normal electricity and now pays \$.05/kWh for electricity from solar, how much is the district saving annually?