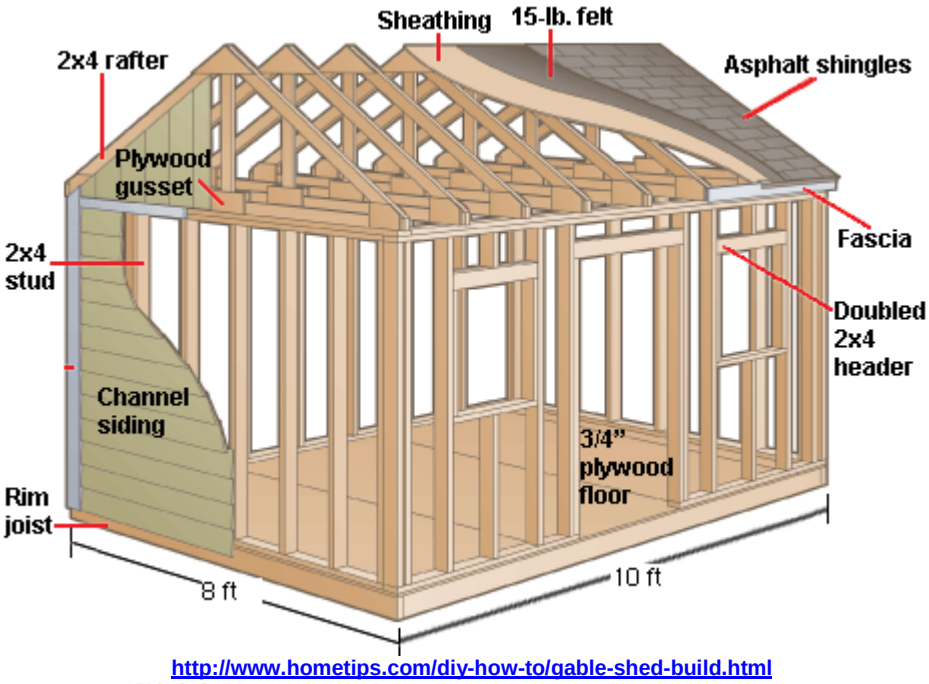
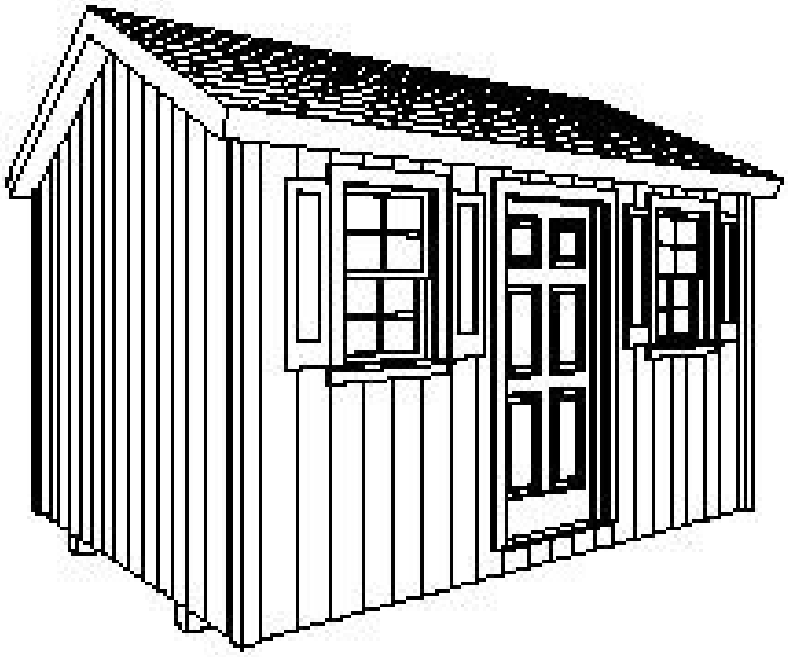
Part D: Let's build a Shed



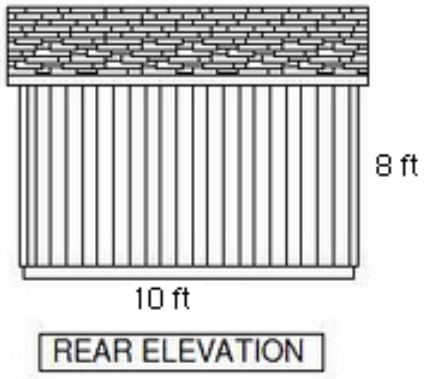
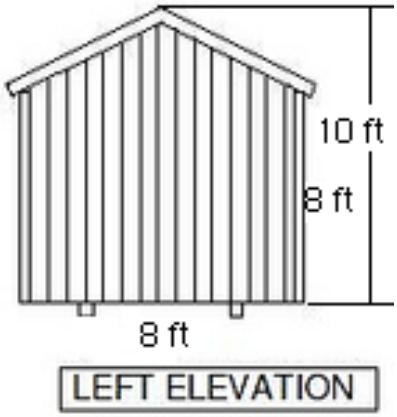
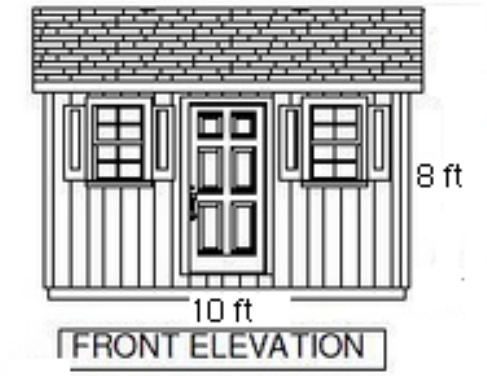
http://www.hometips.com/diy-how-to/gable-shed-build.html

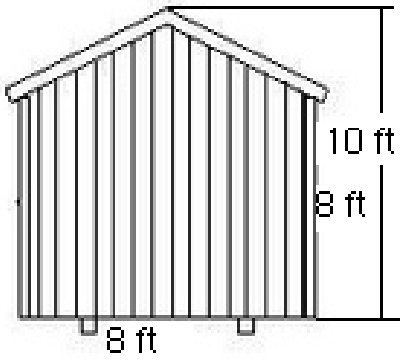


http://www.flickr.com/photos/54108785@N08/5366282924/in/photostream/

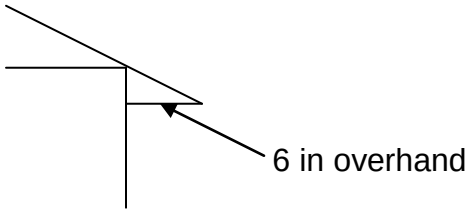
After you've taken a careful look at your shed requirements, your site and your budget, you have decided that the classic 8 x 10 foot, versatile, multipurpose shed is perfect for you.

Now you will use your knowledge of area to determine the total amount of pine required to cover the exterior walls as well as the amount of shingles required to cover the roof.

Shed Section	Formula(s) Required	Mathematical Calculation
Front  		
 		
 • Each window is 2 feet by 3 feet • The door is 3’ x 7’		



1. Determine the total amount of wood panelling required to cover the exterior of the shed.
2. Take the value in the above question and add 10% to it to account for waste wood lost during construction.
3. The pine panelling used on the exterior of the shed costs \$1.67/ft^2. Calculate the total cost of pine panelling (including the extra 10%) used to cover the entire shed along with 13% HST.
4. Using the given dimensions calculate the area of the roof if there is a 6 inch overhand along the length and width of the shed on both sides. HINT: You will need to use the Pythagorean formula and trigonometry to calculate the area of the roof.



5. The shingles used to cover the roof cost \$87.99 per bundle. Each bundle covers an area of 33.3 ft^2. Take into consideration adding 10% for shingle waste determine the amount of bundles required to cover the shed roof and calculate the total cost of the shingles including 13% HST.
6. Calculate the volume of the entire shed including the roof and rafters so that you can know how many items you will be able to fit.
7. Since the shed is being placed on sandy, unstable surface it is decided that a concrete foundation must be poured to ensure the shed's stability. The foundation will have equal dimensions to the base of the shed. The foundation must have a depth of 15.5 cm. Calculate the amount of concrete required to fill the foundation. (HINT: remember to have all measurements in the same unit.)
8. Each bag of concrete has a weight of 60 lbs. Each 60 lb bag has enough concrete for 0.5 ft^3. How many of these bags are required to pour the foundation of the shed.
9. If each bag of concrete mix costs \$3.99/bag calculate the total cost the concrete that will be used for the foundation including 13% HST.
10. Calculate the total cost of the shed consisting of the concrete, shingles, exterior pine panelling and cost for framing wood and screws of approximately \$1500.

Let's Build a Shed Rubric

Expectations	Level 4	Level 3	Level 2	Level 1	R/I
K/U -understanding of concepts	-demonstrates a thorough understanding of all concepts - demonstrates a thorough ability to perform calculations	-demonstrates a strong understanding of most concepts - demonstrates a strong ability to perform calculations	-demonstrates a considerable understanding of some concepts - demonstrates a considerable ability to perform calculations	- demonstrates some understanding of concepts - demonstrates some ability to perform calculations	
TI - PS - ability to solve geometric problems related to the shed design and construction	- demonstrates a thorough ability to solve geometric problems	- demonstrates a strong ability to solve budgetary problems	- demonstrates a considerable ability to solve budgetary problems	- demonstrates some ability to solve budgetary problems	
App -ability to apply mathematics to use in a landscape design application	- demonstrates thorough apply mathematics	- demonstrates considerable apply mathematics	- demonstrates some apply mathematics	- demonstrates limited apply mathematics	
Comm. -task solutions and explanations complete	- task has all solutions with thorough supporting comments	- task has all solutions with considerable supporting comments	- task is missing some solutions with considerable supporting comments	- task has some solutions and very simple supporting comments	