

#### Objectives

- Calculate rough cost estimates for a house to be constructed.
- Determine the most accurate cost estimate for a house being constructed.

#### Importance of Housing Cost Estimates

- Determine cost of a house with limited knowledge of house design.
- On the fly idea of actual cost while house hunting.

#### Preliminary Estimates

- Square foot method
- Cubic foot method

# Square foot method

- Use square footage of house to determine cost of house.
- Different cost for finished and unfinished areas.
- Need estimated cost per square foot.
- Does not include cost for lot.

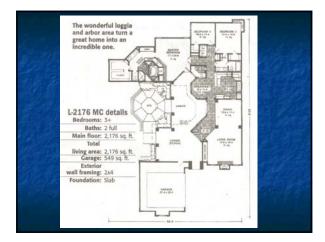
#### Square foot method

- Estimate cost fluctuates with
  - Area
  - Type of house
    - 2 story house = \$100
      Ranch = \$200

#### Square foot method

#### Example

• You would like to build a house from the plans given to you. What would the estimated square foot cost be? The contractor stated that the cost for a house is approximately \$120/ft<sup>2</sup>.



#### Example

Finished area = 2176 ft<sup>2</sup>
Unfinished area = 549 ft<sup>2</sup>
SF = 2176 ft<sup>2</sup> \* \$120/ft<sup>2</sup> + 549 ft<sup>2</sup> \* \$60/ft<sup>2</sup>
SF = \$261,120 + \$32,940
SF = \$294,060

#### Cubic foot method

- Using volume instead of area
- Height figured from basement floor to ceiling
- Attic also included
- Attic volume (AV) = attic area \* 1/2 rise of roof
- Need \$/ft<sup>3</sup> from house builder

#### Cubic foot method

- Example
  - Using the same house, what would the cost estimate be using the cubic foot method? The height from floor to ceiling is 8 ft. The total rise of the roof is 8 ft. The contractor stated that the cost for a house is approximately \$14/ft<sup>3</sup>.



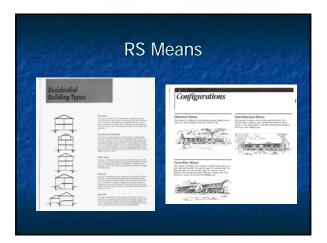
#### Example

Finished volume = 2176 ft<sup>2</sup> \* 8 ft + = 17,408 ft<sup>3</sup>
Unfinished volume = 2176 ft<sup>2</sup> \* (8 ft/2) + 549 ft<sup>2</sup> \* 8 ft + 549 ft<sup>2</sup> \* (8 ft/2) = 15,292 ft<sup>3</sup> SF = 17,408 ft<sup>3</sup> \* \$12/ ft<sup>3</sup> + 15,292 ft<sup>3</sup> \* \$6/ ft<sup>3</sup> SF = \$208,896 + \$91,752 SF = \$300,648

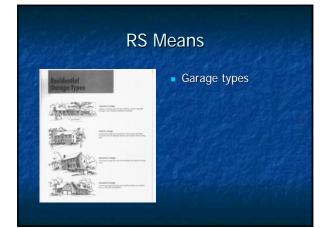
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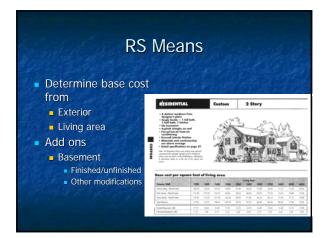
- More accurate
- Uses square foot costs BUT more specific

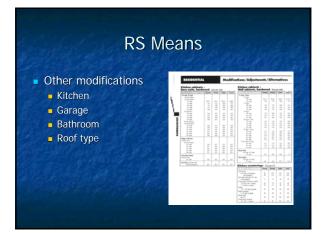
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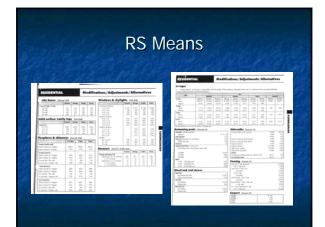


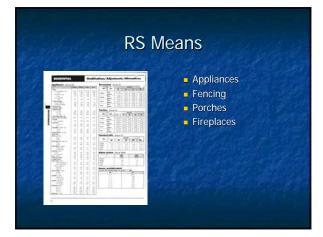












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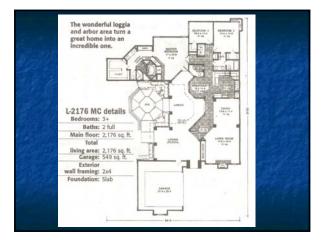
#### **RS** Means

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  - Must make sure that all SF multipliers are added together and then multiplied by SF of livable area.
  - Add in modifications that are based on cost per unit

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# Example

 Use the same house to determine the cost by using RS Means version.



#### Example

- Determine type of house?
- Basement?
- Modifications?
  - Extra kitchens or bathrooms?
  - Garage?
  - Fireplace?

# Example

#### Modifications?

- Roof
- Kitchen
  - Cabinets?
  - Countertops?
- Bathroom vanities?

#### Example

- Appliances?
- Porches?
- Anything else?

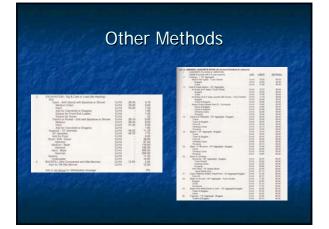
#### Example

- Add everything together
- Multiply by Location factor
  - **1**.00
- About \$320,000

#### Other methods

- More accurate
- More thorough review
  - materials used
  - Cost
  - Overhead









#### Other methods

#### Materials used

- Actual cost from supplier
- Review plans to estimate materials used
- Estimate material waste

#### Other methods

- Cost of labor and installation
  - Contact local contractor for these costs
  - Usually about 60–80% total cost
  - Pay for supervising
  - Guide To Construction Costs by Architects Contractors Engineers

#### Other methods

- Overhead
  - Permits
  - Insurance for workers
  - Weather delays

# Other methods

www.building-cost.net/CornersType.asp

#### Other methods example

Example

 Using the same house, what would the cost estimate be using the website on the following page?



# Comparing Estimates

- Square footCubic foot
- RS Means
- Internet
- **\$294,000 \$**300,000
- **\$318,000**
- **\$280,000**