

Your Client (Home Buyer)

A famous athlete, his wife, and their two children ages 5 and 11

Needs: Spaces to cook, eat, wash, relax, and sleep

The family likes some green space where they can garden, play, or just enjoy the outdoors.

Your client often has teammates over to visit, so he will need a large space to entertain guests.

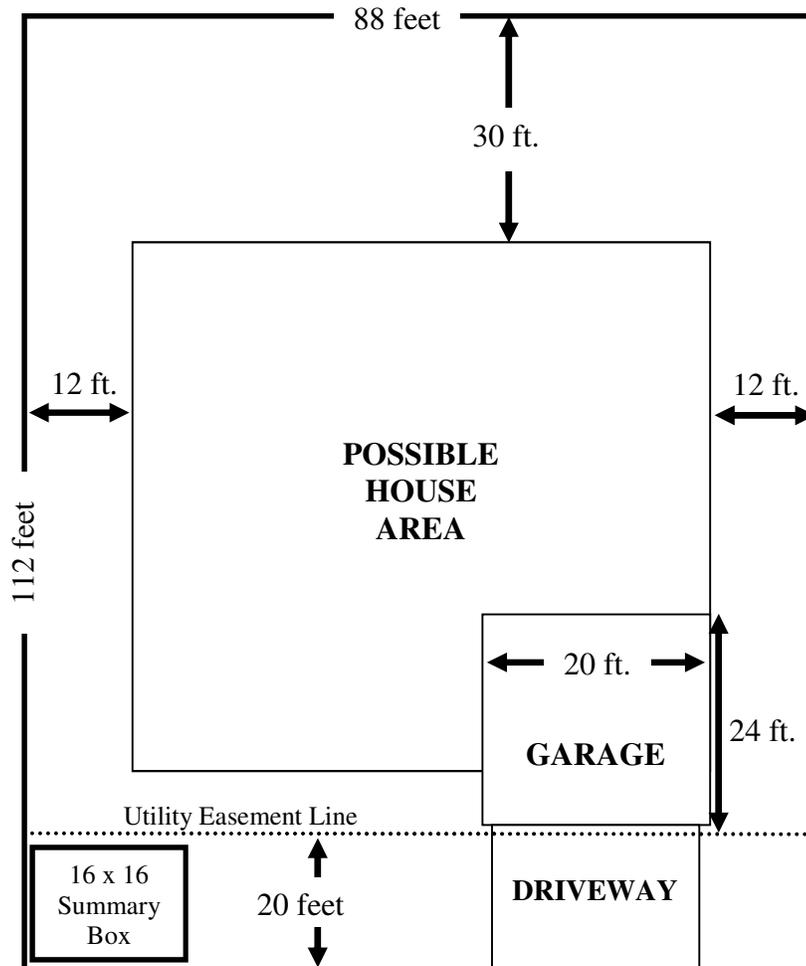
Your client’s wife is a financial planner and she needs a quiet study area when working from home.

Your client will also need a space to train and work out.

Requirements for Final Project Design

- A single story house with:
 - 3 bedrooms (one master), 2 full bathrooms, and 1 half bath
 - 1 kitchen (with pantry), 1 dining room, and 1 living/family room
- Adequate closet space for the family. There should be a closet in all bedrooms as well as a coat closet near the front door and a linen closet near a bedroom.
- You must include a hot water heater (in the garage), washer, and dryer.
- The total construction cost for the house, land, garage and outside features must be under \$375,000. The cost of the land is \$20,000.
- The quality of construction to be used by the builder will cost \$125 per square foot.
- All houses, not including the garage, must be between 2000 and 2500 square feet.
- All dimensions below are required.
- The cost per square foot of the garage is half that of the rest of the house.

**BUILDING
SITE
PLAN**



ARCHITECTURE JOBS

Each team member should be the lead in one of the following three categories.

	Lead	Back-Up
Architect – Assumes the main role for drawing all house items on the graph paper. This person needs to be neat and precise. They must also listen to the inspector and contractor to make sure they follow the rules.		
Building Inspector – Assumes the main role for making sure all rules on these pages are followed at all times. This person must be able to remind his or her teammates of the rules and enforce the rules.		
Contractor – Assumes the main role of making sure room sizes are within range, completes the main inside cost page, and ensures that the team is staying under budget. This person must work with his or her teammates on designing rooms and features that meet cost guidelines.		

Each team member should be the lead in one of the following three categories.

*The lead architect should **not** be the lead landscape designer.*

Landscape Designer – Assumes the main role for drawing and coloring all outside items on the graph paper such as pools, trees, walkways, fences, and playgrounds.		
Real Estate Agent – Designs the home listing to sell your house. This role includes both math related items and the ability to write an informative, descriptive paragraph about your house.		
Graphics Designer – Designs the logo representing your company. This person must be good at art, have a creative mind, and be able to come up with a professional looking final product.		

Each team member should be the lead in one of the following three categories.

The Public Opinion – This person will visit other groups at specific times and give feedback on their designs. The public opinion should stay respectful but give helpful feedback to each group. In addition, this person will be able to come back and share ideas with their team.		
Project Manager – This person will make sure the team is keeping on track and hitting deadlines throughout the project. This person will coordinate when teams might need to come in to catch-up.		
The Encourager – This person makes sure group rapport is positive. The person makes suggestions when a time-outs might be needed to gather thoughts and finds ways to turn problems into opportunities.		

BUILDING INSPECTOR CHECKLIST

*You may use a calculator at all times during the final project.
Use a ruler for all straight lines on this project. Neatness is extremely important.
In general, don't draw things you know are going to be erased later.*

Have out Architecture 9: Architecture Final Project at all times for guidance

Create a Bubble Diagram Layout/Rough Copy

- See Designing Your Rooms page for suggestions/requirements
- Look at home plan books provided and use the bubble diagram of your house for assistance
- See Bad Home Layouts page
- Get teacher approval and then pick up \$20,000 poster board

Determine parts of poster board where you may not draw the house

- See Architecture 9 page for basic layout requirements
- Have the graph paper crease toward the back of your land
- Remember that you will be drawing wall thickness later and that will add half a block
- Lightly, draw four corners  to indicate the area in which your house can be built

Draw Summary Box, driveway and garage

- Your summary box is 16 by 16 and will be drawn one square over and up from the front left or right corner (in the front yard).
- Your driveway, at least 14 feet wide, should be on the left or right side of the house
- Your garage must be the standard size listed on Architecture 9

Draw all other rooms

[End of Day 1: A few rooms have been drawn]

- A room's longest dimension should not be more than twice the other dimension (this does not apply to closets)**
- Do not try to draw the outside of the house and then try to draw the rooms inside.**
- Start with rooms close to the garage and connect each new room to an existing room.
- How big do we make each room?
 - Example dimensions: Look at the dimensions you determined for your real home
 - Minimum and maximum room sizes are listed on Final Project Inside Calculations page
- Draw lightly so that if you erase it won't leave much of a mark
- If you must, write names lightly in the corner to keep track of rooms.
- Make at least one room on front or back of the house interesting – not the same old rectangle most rooms will be. See previous years' examples for ideas.

- Front door faces towards the front (street) and back door faces towards the back.
- All bedrooms are near bathrooms.
- Very little hall space – Hall space is a **waste of money** that could be spent on rooms.
- Any halls you do have should be 3 or 4 feet wide after wall thickness.
- As you finish drawing rooms, complete the Final Project Inside Calculations page to determine if your house is under budget and within the correct size range.
- Check that building codes are met.
- The final house should be between 2000 and 2500 square feet (without the garage).

BUILDING CODES

1. No bathrooms may open to the kitchen.	5. Exterior doors must be at least 3 feet wide.
2. There must be at least two entrances to the house.	6. Closets must be at least 2 feet front to rear.
3. The toilet must have 8 inches of free space on each side and 24 inches of free space in front of it.	7. Bedrooms must have at least one window 3 feet by 4 feet or larger as a fire escape.
4. The following rooms must have a window: living room, dining room, all bedrooms, master bathroom.	8. Interior doors, except for closets, and openings should be at least 2 feet 6 inches wide.
9. Interior walls 2 feet or less do not need electrical outlets. Interior walls between 2 and 12 feet need one electrical outlet. Interior walls between 12 and 24 feet need two electrical outlets, and so on. Code requires only one outlet in the bathroom.	

[End of Day 2]

Draw doors and eliminate walls (if necessary)

- Eliminate walls that are not necessary between rooms (kitchen, dining, living areas)
- Use templates to draw all doors
- Building codes specify the size of exterior and interior doors
- Front door opens **into** the house and back door also opens **into** the house
- Most doors open **into** the room in which you are going, except for closets and small rooms
- No doors to get between the kitchen, living room, dining room (just openings)
- Door dimensions should face toward the front yard

[End of Day 3]

Draw wall thickness and windows – check examples

- Draw the windows before drawing the wall thickness
- Exterior walls are 6 inches thick and interior walls can either be 4 or 6 inches thick.
- Windows must meet building codes and their area must be 8-15% of the area of the house.
- Window dimensions should not face toward the back yard

[End of Day 4]

**At this time you may begin drawing your landscape if you have an approved bubble diagram.
When you do, please look ahead to the landscape instructions.**

Draw sinks, toilets, hot water heater, washer, dryer, kitchen appliances, etc.

- See Kitchen Design page for ideas on how to place objects in the kitchen
- Use templates to draw all items.
- Toilets must meet building code.
- All items have specific sizes – if you are not sure of the size ask your teacher or see previous years' examples
- Hot water heater = 24" circle
- Plenty of counter space (2 ft. deep) in the kitchen plus the range, refrigerator, dishwasher, sink.
- Fireplaces, if you want one, should be included in a common area (such as the living room).

[End of Day 5]

Draw outlets, lights, switches, etc.

- See Official Rules for Electrical Outlets page
- Use templates to draw all items
- Lights are circles on the templates (use "8" circle)
- Outlet circle size is shown on the template
- Electrical outlets must meet building code
- Follow all electrical contractor rules (Architecture 7A) for outlets, lights, and switches
- Fluorescent lights go in the garage and kitchen and they are 4 feet long
- Lights are over the sink and the stove
- Some appliances require special outlets (refrigerator, washer, dryer)
- The vast majority of rooms **will only require one overhead light/fan.**

[End of Day 6]

Write names and list dimensions on all rooms

- All room names should face toward the street (small rooms may be written vertically)
- All room names must be written neatly and in capital letters
- All letters should be close to one square high
- One person should write all room names so that they look similar
- List the width (across) first, then the length (up and down)
- Example: 16 x 20 or 16⁰ x 20⁰
- For rooms that are not perfect rectangles, use the dimensions for the majority of the room

Improve erasures, correct rips and tears, look professional

Draw landscape/features outside the house

- Review Designing Your Landscape and Home Landscape Questionnaire Pages
- Review Final Project Outside Calculations for items and prices
- Have bubble diagram approved by your teacher
- Designing Your Landscape Step 6 lists all the requirements for your landscape

[End of Day 7]

Complete summary box (see example) – All caps and neat

This is an example of a summary box. This box should be drawn neatly and all wording should be in capital letters. *The living area is the area of the house without the garage.* Have your north symbol point the direction you choose. Think about the sun rising in the east and which rooms will get sunlight at different times during the day.

FINAL PRICE = Total Inside Cost + Total Outside Cost

[End of Day 8]

101 DRAGON DRIVE			
MODERN DESIGN ARCHITECTS INCORPORATED SARAH NICHOLS, MAEGHAN MCFARLAND, EMMA SMITH			
BEDROOMS:	4		
BATHROOMS:	3.5		
LIVING AREA:	2,100 FT ²		
GARAGE AREA:	480 FT ²		
TOTAL AREA:	2,580 FT ²		
FINAL PRICE:	\$329,000		
SCALE: 0.25 INCHES = 1 FOOT			
0 ft	3 ft	5 ft	10 ft
			
			

Complete recording sheets, organize, and order

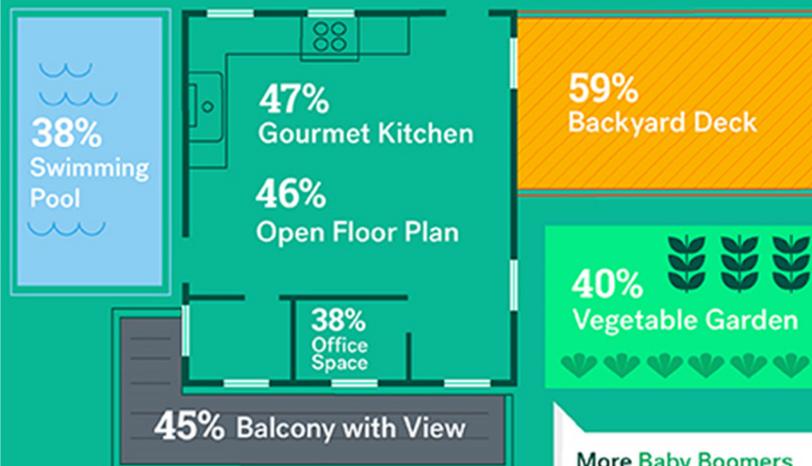
All recording sheets should be completed in a neat and professional manner.

- Your company logo and slide it into front cover of your portfolio
- If your logo does not contain the entire company's name, write the company name at the bottom of your logo page
- Tape your chance card to the inside front cover of your portfolio
- Southlake Properties home listing page and place as your first page in your final portfolio
- Next, inside area and cost calculations
- Next, outside calculations
- Next, mortgage calculations
- Next, energy/flooring/paint heating calculations
- Next, landscape design recording page
- Next, company logo recording page
- You will turn in your jobs page and this checklist.

[End of Day 9]

Which Amenities Do Americans Want Most?

Gen-Xers follow the national trend and desire a deck the most



More Baby Boomers would rather have a garden than a pool

Millennials want a balcony with a view more than any other age group

Bad Home Layouts: How You Can Avoid Building a Home with a Bad Layout Design

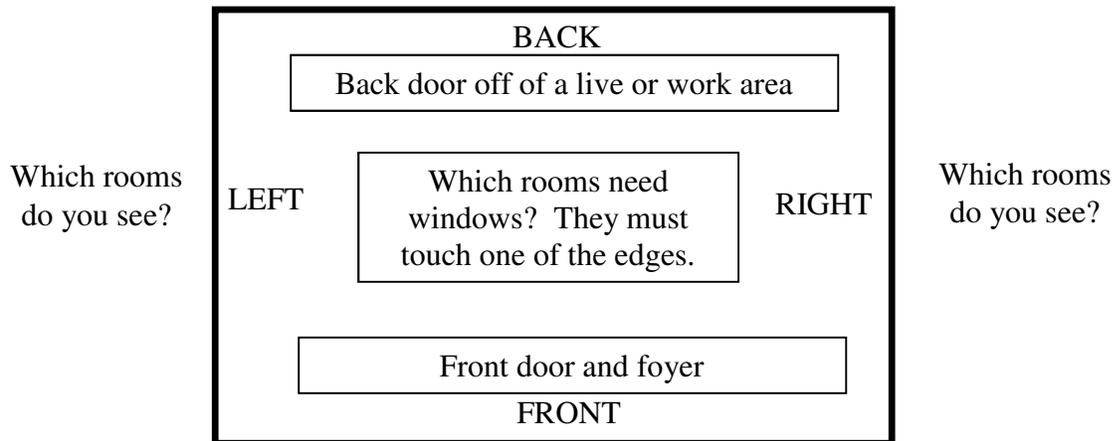
Common Bad Layout Designs - Here are a few of the common complaints we hear from buyers.

- **Hallway Facing the Entrance**
Entrances are important because an entrance forms a first impression. Buyers make up their minds within 6 seconds of entering a home. It might not be a conscious decision, but buyers either feel good or feel bad walking in the door. Long, narrow, dark hallways are a huge turnoff, especially if the hallway constitutes the entire view from the entryway.
- **Dining Room in the Center**
In this type of layout, upon entering the home, you walk through the living room into the dining room. To get to the kitchen, family room or bedrooms, one must walk through the dining room because all rooms are connected through multiple entrances to the dining room. It does not provide a straight path or easy access.
- **Adjoining Bedrooms**
In some areas, appraisers won't consider the value of adjoining bedrooms, and will consider two bedrooms as one. Real estate ads might call this set-up a two- to three-bedroom home if two of the three bedrooms adjoin. Buyers expect a separate entrance to each bedroom.
- **Bedrooms Located Off the Living Room / Dining Room**
It is undesirable to locate a bedroom door directly leading from a room where family members or guests gather. Apart from the noise factor, it reduces privacy as well. Nobody wants to look at a bed while dining. Most people want to dine, entertain family in the family room or greet visitors in the living room without a view of the bedroom.
- **Poorly Located Guest Bathroom**
The only thing worse than staring down a long hallway upon entering a home is capturing a full view of a toilet at the end of it. Closing the door to the bathroom is unattractive and uninviting, so that's not a practical solution. A main-floor or guest bathroom, which is accessible only by walking through a utility / laundry room or bedroom, is unappealing as well.
- **No Views From One Room to Another**
Even if your home is small, as long as one can see several other rooms from a central spot, it will make the home appear larger. Multiple doorways or arches to main meeting areas help to accomplish this purpose. Open spaces create a feeling of spaciousness. It's not necessary to open the kitchen to the living / family areas but it is popular.
- **Satellite Living Rooms**
This type of layout generally places the living room off to one side of the entrance, and it connects to no other room but the entrance. People don't want to feel disconnected from the rest of the home, especially if they use the living room for the purpose it was intended. In new home construction, the trend is moving away from building homes with living rooms and replacing those areas with great rooms or expanded family rooms.

DESIGNING YOUR ROOMS

Think about what rooms you will see when you look at your house from each side.

Which rooms do you see?



Which rooms do you see?

MUST HAVES and REQUIREMENTS

Room	Must have a window?	Where located in house
Master Bedroom	Yes	Back
Bedroom #2 and #3	Yes	Back, front, or side
Master Bathroom	Yes	Back, front, or side
Other Bathrooms	No	Anywhere
Kitchen	No	Anywhere*
Dining Room	Yes	Usually front
Living Room (Great Room)	Yes	Back

* Kitchen is often in the middle with a Nook or Breakfast Area nearby which contains a window

The kitchen, dining room, and living room need to be located close to each other. They often make a triangle. One needs to be able to go from the living room to the dining room without going through the kitchen.

Also needed: Laundry room, hot water heater (in garage), closet space (coat closet near front door), linen closet (near a bedroom), pantry (near kitchen), closets in bedrooms

Sleep, Live, Work

Think of your home as divided up into 3 separate areas: live, work, and sleep

Live: living, dining, family

Work: kitchen, pantry, workshop, study, half bath

Sleep: bedrooms, bath, storage, halls, utility

OFFICIAL RULES FOR ELECTRICAL OUTLETS

(Based on common building codes)

Most Rooms (*expect ones listed below*)

Interior walls 2 feet or less do not need electrical outlets.

Interior walls between 2 and 12 feet need one electrical outlet.

Interior walls between 12 and 24 feet need two electrical outlets, and so on.

Bathrooms

At least one electrical outlet shall be installed in bathrooms and it should be located within 36 inches of the sink. The outlet should be placed on a wall that is adjacent to the sink.

Laundry areas

At least one electrical outlet shall be installed to serve laundry appliances.

Garages

At least one electrical outlet shall be installed in each attached garage.

Hallways

Hallways of 10 feet or more in length shall have at least one electrical outlet. The hall length shall be considered the length measured along the center of the hall without passing through a doorway.

Closets

No outlets are needed in closets.

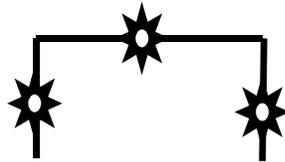
Outside

At least one electrical outlet shall be installed outdoors at the front and back of each house.

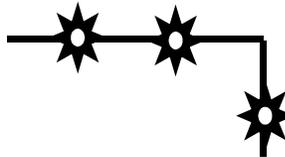
DESIGNING YOUR KITCHEN

The design of your kitchen is based on the three most important items in the kitchen: refrigerator, sink, and stove. These three form the “work triangle” and set the foundation for designing your kitchen. Here are the three most common examples of how to set your kitchen up.

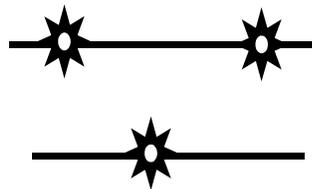
A U-shaped kitchen with the sink in the middle and the refrigerator and stove on opposite sides.



An L-shaped kitchen has two of the three on the same wall and one on a second wall.



A parallel kitchen has two counters opposite each other.



Kitchen Design Details

Sink: You need 2 feet of work area on both sides of the sink.

Stove: You need 1.5 feet of work area on either side of the stove and 3.5 feet of open space in front of the stove.

Refrigerator: You need 1.25 feet of counter space on an open side.

Dishwasher: You need 3.5 feet of open space in front of the dishwasher.

A pantry is for storage off of the kitchen.

Be sure to include plenty of counter space in the kitchen.

DESIGNING YOUR LANDSCAPE

The area around your home is an important part of your living environment. An attractive and functional landscape should be an extension of your home and can add to the enjoyment of your time. Landscaping can also increase property value, invite wildlife into your yard, and conserve energy. Today, more people want their home landscape to meet functional and social needs.

Step 1: Landscape Style Options (You will choose one.)

1. *Geometric-Structural*: Geometric structure is primary and plants play a minor role. Straight lines for walks, driveways, and planting beds are typically used.
2. *Geometric-Natural*: Structure dominates, but plants and other natural elements play an important – perhaps nearly equal – role. Straight lines and more formal curves often define landscape features.
3. *Natural-Structural*: Plants, rocks, water, and earth forms dominate, but there is a clear sense of geometric arrangement. Naturally flowing, curved lines are used to soften the transition from one area to another.
4. *Natural*: Natural elements and materials dominate, and there is no obvious human-determined form or structure. Elements in the landscape flow naturally into each other with few or no clearly defined lines.

Step 2: Site Analysis & Prioritize Needs/Wants

Examine the location of the house and garage and think about the view from each room
Complete the Landscape Questionnaire on the next page

Step 3: Determine a budget - Approximate how much you will be able to spend on your landscape

Step 4: Identify home landscape use areas

- **Public Area**: This is most often the front yard and is the area the public sees from the street. The main purpose is to frame the house and create a visually appealing and inviting landscape. An attractive entryway or walkway to the house is a primary feature.
- **Private or Family Area**: The private area is often the back yard and sometimes the side yards. There should be easy access from the house to the outdoor space and features such as outdoor furniture and lighting should be considered.

Step 5: Sketch a landscape bubble diagram

Step 6: Draw your final plan

All items drawn using templates, when available, or very neatly

Pools are not allowed within 10 feet of the house and require a fence on both sides of your house.

There should be something in the yard that demonstrates **symmetry**.

There should be at least one **circular** object (other than trees) in your yard.

There should be something outside that demonstrates a **reflection, rotation, and dilation**.

A walkway/pathway should connect your driveway to the front door.

At the end you might want to come back and add a bird's eye view of a car in the driveway.

Gates must be at least 3 feet wide.

Sidewalks should be 4 to 5 feet wide. Pathways may be 2 to 3 feet wide.

Write the name on all outside features that are not obvious

Answering these questions will help determine how outdoor spaces are used. Identify facts, wants, and needs increases the likelihood that the resulting landscape is a success.

LANDSCAPE STYLE OPTIONS

___ Geometric-Structural ___ Geometric-Natural ___ Natural-Structural ___ Natural

YARD USE

Who will use the yard? ___ Adults ___ Children ___ Elderly ___ Pets

When is the yard used? ___ Spring ___ Summer ___ Fall ___ Winter

OUTDOOR STRUCTURES

What outdoor structures/features would you like to add?

- | | | |
|--------------------------------|-----------------------|-----------------------------|
| ___ Patio, deck, or porch | ___ Gazebo | |
| ___ 2 to 4 people | ___ 2 to 4 people | |
| ___ 4 to 8 people | ___ 4 to 8 people | |
| ___ 8 to 12 people | ___ 8 to 12 people | |
| ___ 12+ people | ___ 12+ people | |
| ___ Shade cover for patio/deck | ___ Fountain | ___ Sculpture |
| ___ Children's play area | ___ Waterfall/stream | ___ Fire pit |
| ___ Cooking/grilling area | ___ Greenhouse | ___ Boulders |
| ___ Garden | ___ Putting green | ___ Dry creek |
| ___ Dog pen/run | ___ Rain barrel | ___ Mounds/berms |
| ___ Storage shed | ___ Irrigation system | ___ Pond |
| ___ Clothesline | ___ Swimming pool | ___ Bench |
| ___ Fence(s) | ___ Spa/hot tub | ___ Fenced vegetable garden |

STORAGE

What items need storage space? ___ Garden equipment ___ Garbage cans ___ Bicycles
 ___ Outdoor toys ___ Sports equipment ___ Lawn furniture

STYLE

What is your preferred design style? ___ Formal ___ Semiformal ___ Informal

SHAPE

What is your preferred shape? ___ Rectangles ___ 45° angles ___ Circles
 ___ Curving/free form ___ Combination

COLOR

List colors that you think will work well with your landscape:

For rooms that are not rectangles, place an X in the column. For width and length, measure the majority of the room. Calculate the exact area of the room (it will not be the listed width times the listed length). For the percentage of house area, round to the nearest tenth of a percent.

Room name	X	Width ↔	Length ↕	Min-Max Area (ft. ²)	Our Area (ft. ²)	% of Total House Area (w/o garage)	Cost (\$)
Kitchen & Pantry				130-280			
Dining Room				140-280			
Living/Family Room				230-460			
Master Bedroom				180-360			
Bedroom #2				110-220			
Bedroom #3				110-220			
Master Bathroom				80-160			
Full Bathroom #2				50-100			
Half Bathroom				20-50			
Office, Study, or Library				80-200			
Game or Media Room				140-320			
Foyer/Entryway				20-100			
Laundry				30-60			
Training/Workout Room				150-350			
Total closet space not included above				-----			
All rooms not listed/included above				-----			
Total hall space				0-150			
HOUSE (w/o garage or land)				2000-2500		100%	
Garage		20 ft.	24 ft.		480		\$24,000
Land		88 ft.	112 ft.		9,856		\$20,000
TOTAL INSIDE COST (House + Garage + Land)							

The following is a list of features that may be included outside of the normal house and garage. The cost of each feature is listed next to each one.

Linear foot: Same as a regular foot. Linear means you are **not** talking about square feet.

Every 10 linear feet: Means the item is sold in increments of 10.

ITEM	Cost	Typical Dimensions	Our Dimensions Or Area	Cost
LANDSCAPING				
Trees/Bushes	\$3000 (all the trees/bushes you want)		√	\$3,000
Garden or Dry Creek Bed	\$10 per square foot			
Pond	\$25 per square foot			
Stone/Brick Path/Walkways	\$1000 per every 10 linear feet Sold in 10 linear feet sets	3 feet wide		
Fencing	\$25 per linear foot (Not needed on property line)			
Hedge	\$15 per foot			
FUN AND GAMES				
Swimming Pool	\$12,000 + \$30 per square foot	Max: 18 ft. by 36 ft.		
Tetherball Court	\$500	10 ft. diameter		
Trampoline	\$500, \$750, \$1000, \$1500	8, 10, 12, or 14 ft. diameter		
Hot Tub	\$160 per square foot + cost of deck (required) around hot tub	Min: 20 sq. ft. Max: 50 sq. ft.		
Horseshoe Court	\$500	6 ft. by 50 ft.		
Mini-Basketball Court	\$10 per square foot	Min: 14 by 18 ft. Max: 25 by 40 ft.		
Mini-Volleyball Court	\$6000	15 ft. by 30 ft.		
Putting Green	\$20 per square foot	Min: 5 by 12 ft. Max: 15 by 30 ft.		
Sandbox	\$10 per square foot	12 ft. by 12 ft.		
DETACHED BUILDINGS				
Utility Shed	\$10,000	10 ft. by 12 ft.		
Trash Can Shed	\$2500	3 ft. by 5 ft.		
<i>more ideas on the back.....</i>				

ITEM	Cost/Dimensions	Typical Dimensions	Our Dimensions Or Area	Cost
ATTACHED TO THE HOUSE				
Wheelchair Ramp	\$300 per linear foot	4 feet wide		
Patio/Deck	\$40 per square foot			
Porch (enclosed with screens)	\$70 per square foot	8 ft. by 14 ft.		
Porch (open)	\$25 per square foot	24 ft. by 16 ft.		
Greenhouse	\$200 per square foot	6 ft. by 10 ft.		
Sunroom	\$250 per square foot	6 ft. by 10 ft.		
LANDSCAPE ACCESSORIES				
Garden Arbor	\$20 per square foot			
Hammock (Trees 15 feet apart)	\$150	10 feet long + 2.5 feet on each side attaching to each tree		
Outdoor Fountain	\$1500 \$4000 \$1500 \$4000	6 ft. by 8 ft. 10 ft. by 13 ft. 7 ft. diameter circle 11 ft. diameter circle		
Benches	\$600 for 3 linear feet \$100 for each additional foot	2 feet wide		
Picnic Table with Chairs	\$1000 for 5 feet \$100 for each additional foot	3 feet wide		
Low-Voltage Lighting	\$2500 for first 4 lights \$750 for additional 4 lights			
Gazebo	\$4000 +\$1000	Circle or Octagon 8 foot diameter +2 foot diameter		
Firepit	\$750	4 ft. diameter		
ADDITIONAL ITEM				
TOTAL OUTSIDE COST				

Porch: A porch is a raised platform with a roof that that serves as a covered entrance to a house.

Patio: A patio is defined as an area, often paved, adjoining a house and used for lounging. Usually roofless.

Deck: A deck is defined as an open, uncovered porch extending from a building. Usually wooden. Usually elevated.

Landscape Design Recording Page

1. What are the 3 main features of your landscape design?

-
-
-

2. How is symmetry demonstrated in your landscape design? Be specific.

3. Where can a rotation be found in your design?

Where can a reflection be found in your design?

Where can a dilation be found in your design?

4. What is your biggest circular object in your landscape (other than trees)?

5. Based on your answer to #4, assume you had placed 6 of these shapes in your yard (you do not need to actually place 6). Determine the total circumference, area, and cost of all 6 shapes.

Total Circumference	Total Area	Total Cost @ \$30 per square foot

BUYING A HOME - MORTGAGE CALCULATIONS

For all calculations on these pages, **round to the nearest dollar.**

Final Price for Our Home Total Inside Cost + Total Outside Cost	
Down Payment 20% of the price of the house	
Mortgage (Principal) 80% of the price of the house	

Most families pay off their mortgage over a period of 15 or 30 years. Use the table below to calculate the monthly payment necessary for your mortgage above.

Mortgage Payment Calculation

Principal	Loan term	Multiply price by...	Monthly Mortgage Payment
	15 yr.	0.0074	
	30 yr.	0.0048	

Lenders typically require homeowners to purchase **homeowner's insurance**, which covers both the home and its contents in the event of a flood, fire, or other damage.

Insurance Calculation

Final Price	Insurance Rate	Monthly Insurance
	0.0005	

PROPERTY TAXES – You must pay annual **property taxes**. Property taxes can either be paid monthly as an addition to your mortgage or they can be paid yearly separate from your mortgage payment. For this project you will pay them as part of your monthly mortgage payment.

Property Tax Calculation

Tax	Final Price	Yearly Tax Rate	Yearly Taxes = Price • Tax Rate	Monthly Tax
City of Southlake		0.0046		
Tarrant County, College & Hospital		0.006296		
Carroll ISD		0.01415		
Total		0.025046		

PITI – The total monthly mortgage payment is often referred to as the **PITI**, which stands for principal, interest, taxes, and insurance.

PITI Payment Calculation

Loan Period	Monthly Mortgage	Monthly Insurance	Monthly Property Tax	Mortgage Payment (PITI)
15 years				
30 years				

INCOME NEEDED – Banks use formulas to determine if a person qualifies for a loan based on their income. Banks generally use the guideline of 30%. This means that the total cost of the monthly mortgage payment (**PITI**) should not exceed 30% of the family’s monthly income.

Total Yearly Income Estimate

Loan Period	PITI Payment	Bank Rule of Thumb	Monthly Income = $\frac{\text{PITI}}{0.30}$	Yearly Income Needed To Buy This House
15 years		Payment = 30% of income (Maximum)		
30 years		Payment = 30% of income (Maximum)		

Energy Efficiency Study

Area of our house (not including garage)	Area of all windows	Window Percentage $\frac{\text{Area of windows}}{\text{Area of house}} \cdot 100$ <i>(round to the nearest tenth)</i>	The area of the windows must be between 8% and 15% of the area of the house as this provides a balance between natural lighting and excessive energy consumption.

Flooring Calculation

9 square feet = 1 square yard

Total square footage (not including garage):			
	Square Feet	Unit Rate	Cost
Tile <i>(all bathrooms)</i>		\$4.00 per ft. ²	
Vinyl <i>(kitchen)</i>		\$3.00 per ft. ²	
Carpet <i>(Rest of house, except garage)</i>		\$27.00 per yd. ²	
Installation (\$5.00 per square foot):			
Total flooring cost (flooring + install):			

Paint Estimate Calculation

Area covered by a gallon of paint = 300 ft.²

Cost of Paint = \$35 per gallon

Area of all walls Find the perimeter of each room using your inside cost page. Then multiply by 10 since you have 10 ft. walls.	
Gallons of paint needed (round up to next whole gallon)	
Total Cost	

Heating System Calculation

Area of house (not including garage)	Average height of ceiling	Volume of house
	10 ft.	

Volume of a house will determine the type of heating/air conditioning system that will be installed.

Your job: Create a **logo** and a **slogan** for your architecture company.



A **logo** is used to help develop a name for a business. Some of the most famous logos that everyone will recognize are on this page. A logo is designed for immediate recognition. The logo shapes, colors, fonts, and images usually are different from others in a similar market. Some logos contain the full company's name as part of the logo and some don't.

Today there are many corporations, products, services, agencies and other entities (like states and countries) using a sign or a symbol or a combination of sign and emblem as a logo.

Qualities of an effective logo

1. Makes a good first impression.
2. Represents who you are and your ideas and attitudes.
3. Possesses something unique or interesting to help you stand out from the crowd - a mark of distinction.



Italic type (slanted) denotes action or speed and projects a modern image.
 Capital letters suggest formality and steadiness.
 Lowercase letters suggest an informal manner or casual image.
 Outlined letters project an informal image.
 Thin letters denote professionalism.
 Thick or bold letters project strength or dependability.
 Script denotes gentleness or caring.



Color is important to brand recognition, but it should not be the main component of the logo design because it could conflict with its functionality. In the United States red, white, and blue are often used in logos for companies that want to project patriotic feelings.

Your architecture firm needs a logo that people will remember. Examples of architectural companies' logos are also included below. They often have the company name or initials. **Your logo must contain something geometric or architecture related.** It should be in color (unless you specifically want it black and white) and should be neatly drawn (no computers) on paper that will slide into the cover of your binder.



Hidden Meanings in Popular Logos

Sometimes a company or brand logo is more than it first appears. For example, take a look at the hidden meanings or messages embedded in these popular logos below. You won't look at these designs the same way again.



Scott Olson, Getty Images)

FedEx

Can you spot something in this logo? The FedEx logo, designed in 1994 by Linden Leader & Landor Associates, at first appears simple and straightforward. However, if you look at the white space between the "E" and "x" you can see a right-facing arrow. This "hidden" arrow was intended to be a subliminal symbol for speed and precision.



Getty Images

Amazon.com

That yellow arrow is more than just a decorative swoosh. The Amazon logo was created to represent the message that it sells everything from A to Z (the arrow connects the two letters) and also represents the smile that customers would experience by shopping on the Amazon.com Web site (the arrow becomes a smile).



AP

Baskin-Robbins

In 2005, as part of its 60th anniversary celebration, Baskin-Robbins launched a new brand identity. The new logo was intended to "capture the fun and energy of Baskin-Robbins." In the old logo, the number "31" appeared within a simple arc, suggestive of a scoop of ice cream, and next to the name. In the new logo, you can see that the "31" still exists. It is now formed by the pink portion of the ice cream store's two initials: "B" and "R."



AP

Northwest Airlines

Back in 2003, lamenting the loss of the old Northwest Airlines logo (shown here), pilot Patrick Smith published his critique of the new logo in his "Ask the Pilot" column at Salon.com, saying the airline's previous circular corporate logo was, "quite simply, a work of genius. It was an N; it was a W; it was a compass pointing toward the northwest."



AP

Sun Microsystems

Sun's logo -- which features four interleaved copies of the word "sun" -- was designed by professor Vaughan Pratt of Stanford University. It is an ambigram, which is defined as a typographical design or artform that may be read as one or more words not only in its form as presented, but also from another viewpoint, direction or orientation.



AP

Goodwill

Do you see the right half of a smiley face? Or do you see a lower case "g"? In either case, you'd be correct.

Company Logo Recording Page

1. Describe your final logo.
2. How does your logo relate to your company name?
3. What geometric or architectural element is included in your logo so that one knows you are an architectural company?
4. What is the business purpose or meaning you are conveying to customers with the colors that you used for your final logo?
5. What is your company's slogan? Why does this slogan represent your company?
6. What makes your logo unique and memorable?
7. Below include any other important comments about your logo that have not been stated above.

Video Recording Tips

The best videos have planning that takes place before the actual recording. Who is going to speak – everyone or only one or two people? Are you on camera or just your project?

Your video should be between one and two minutes long. You will want to use your home flyer page as a guide of what you want to say on your video. Don't plan the video word for word, but have a bullet list of the key talking points in your video.

PART 1: HOME SUMMARY

- The name of the architecture company
- The street address of the home
- The total cost of the home
- The total area of the home (without the garage)
- How many bedrooms there are
- How many bathrooms there are

PART 2: INSIDE YOUR HOME

- Pick 2 or 3 of your most important rooms
- Think about how you can make people feel at home
- Tell why the rooms are great
- Tell people what fun things they could do in the room (For example, "Imagine your whole family gathering in our huge game room to see who is best at..." is better than "We have a huge game room".)

PART 3: OUTSIDE YOUR HOME

- Pick 2 or 3 of your most important outside items
- Think about how you can make people feel at home
- Tell why the rooms are great
- Tell people what fun things they could do in the room

PART 4: CONCLUSION

- Have a concluding sentence or two summarizing everything and letting people know this is the home of their dreams

Camera person – Do not have the camera constantly moving. Every now and then move in and out as needed to show various aspects of the project. When the camera is always moving it is very distracting to the viewer.

Be creative – Make it interesting – Make us want to watch the video again and again!!! It can have some humor, but it shouldn't be "goofy". The goal is to convince us to buy your house.