

ESTIMATE SMITH RESIDENCE ELECTRICAL SYSTEM

- 1 List all materials required to build the electrical system on provided takeoff sheets.**
 - 2 Attach material cost using provided Electrical Supply Price Sheet.**
 - 3 Calculate Man-hours to install required materials using Labor Production Work Sheet**
 - 4 Calculate total job cost using Job cost sheet.**
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- 5 Be prepared to present your bid next class.**

Owners Bid Instructions to Contractor

- A Count all ceiling light fixtures as one nail on ceiling box. Exclude light fixtures they will be provided by owner.**
- B Appliances to be provided by owner.**
- C All work to be completed in three weeks.**

TAKEOFF/MATERIALS LIST

Use as much of this form as necessary to complete your takeoff for this project.

[illegible]

[illegible]

Blueprints, Level II

Lesson 3

[illegible]

Blueprints, Level II

Lesson 3

[illegible]

Electrical Supply Price Sheet

Service Equipment			
Item	Item Description	Unit Cost	Per.
1	200 amp Meter Base	\$55.00	ea.
2	40 circuit panel	\$176.00	ea.
	Circuit Breakers		
3	Single pole 15, 20, or 30amp	\$8.39	ea.
4	Single pole 15 or 20 GFCI	\$42.67	ea.
5	Single pole 15 or 20 AFCI	\$38.22	ea.
6	Single pole 15 or 20 AFCI / GFCI	\$45.04	ea.
7	Double pole 15 - 40amp	\$14.00	ea.
8	Double pole 50 - 60amp	\$17.48	ea.
9	8' x 1/2" ground rod	\$27.81	ea.
10	1/2" Ground Clamp	\$6.18	ea.
11	1/2" Ground Clamp to 3/4" pipe	\$9.65	ea.
12	200 amp SE cable weatherhead	\$11.22	ea.
13	200 amp SE cable clamps	\$4.25	ea.
14	30 - 60amp 2 pole disconnects	\$57.98	ea.
	Devices		
15	15-20 amp receptacles	\$299.00	c
16	Dryer Receptacle 30amp 4w	\$1,076.00	c
17	Range Receptacle 50amp 4w	\$886.00	c
18	15-20 amp single pole switches	\$447.00	c
19	15-20 amp 3 way switches	\$695.00	c
20	15-20 amp 4 way switches	\$999.00	c
	Plastic Boxes		
21	1 gang switch	\$550.00	c
22	2 gang switch	\$686.00	c
23	3 & 4 gang switch	\$1,180.00	c
24	Nail on ceiling box	\$421.00	c
	Wire and Cable		
25	#2/0-2/0-1/0 SE cable	\$9.46	lf
26	#6-6-6-8 Range cable	\$1.71	lf
27	14/2wg NM-B	\$169.54	k
28	14/3wg NM-B	\$251.52	k
29	12/2wg NM-B	\$260.00	k
30	12/3wg NM-B	\$460.54	k
31	10/2wg NM-B	\$319.60	k
32	10/3wg NM-B	\$699.36	k

Electrical Supply Price Sheet

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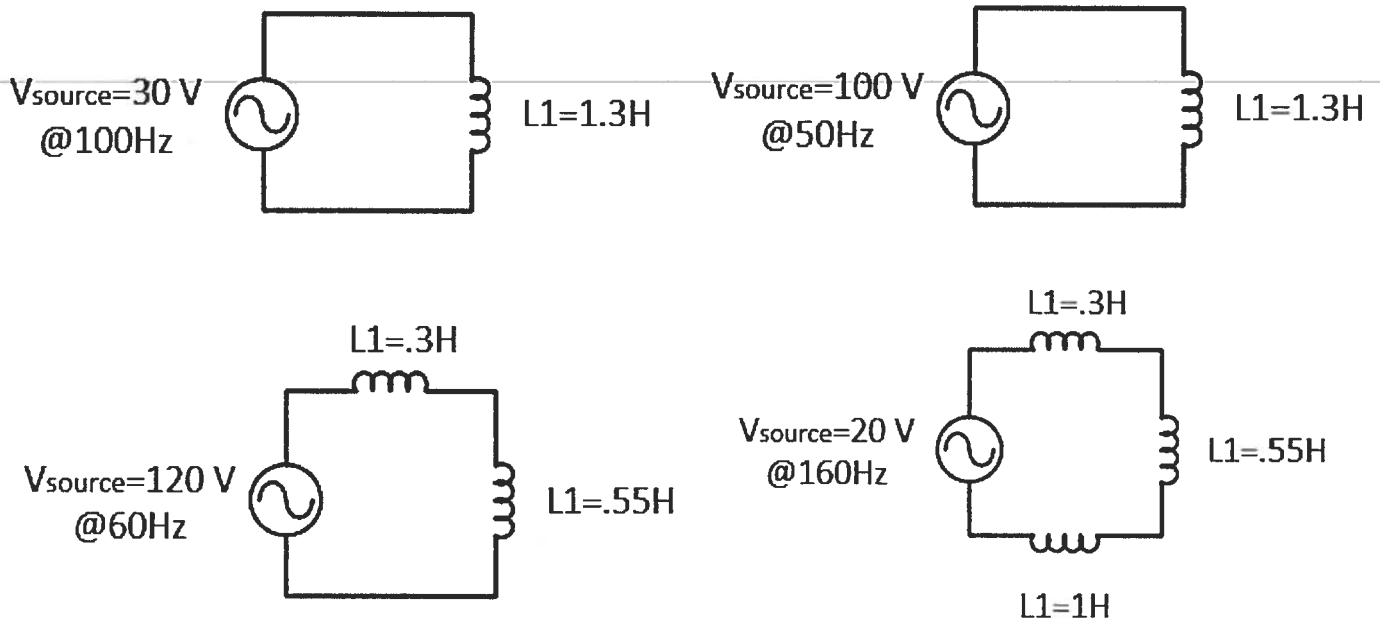
Smith Residence Labor Production Work Sheet

Item	Description	Qty	Unit	Man Hours	Total
1	200amp service complete		ea	40.00	
2	30 - 60amp Safety Switches		ea	1.14	
Devices & Plates					
3	15 & 20amp Duplex receptacles		ea	0.20	
4	Dryer / Range receptacle 4/w 30 - 50amp		ea	0.40	
5	15-20amp single pole switches		ea	0.20	
6	3 way switches		ea	0.25	
7	4 way switches		ea	0.29	
8	1 - 3 Gang device plates		ea	0.06	
9	4 Gang device plates		ea	0.14	
Switch & Devices Boxes					
10	1 - 3 Gang boxes		ea	0.11	
11	4 Gang device box		ea	0.16	
12	Nail on Ceiling Box		ea	0.20	
Wire & Cable					
13	#14 - #10 Type NM-B cable		LF	0.02	
14	#6/3 Type NM-B cable		LF	0.03	
				Total Manhours	

Smith Residence Job Cost Sheet

Contractor Direct Labor Cost	APP	JMN
Total Hours		
Hourly Wage	\$27.00	\$50.00
Total Hourly Wages		
Additional Direct Labor Cost		
Comp. Liability + Unemployment Insurance 19%		
Social Security Tax 7.65%		
National Electric Benefit Fund \$1.45 per hour		
Apprentice Training \$0.73 per hour		
Annuity \$5.30 per hour		
Local Pension \$7.30 per hour		
Health and Welfare \$13.00 per hour		
Sub Total		
Summary		
1. Journeyman/ Apprentice Total additional Direct Labor Cost (subtotal)		
2. Total Hourly Wages		
3. Total Material Cost		
4. Subtotal		
5. Direct Cost add on for - Tools, equipment + vehicles - 10% of line 4		
6. Indirect Cost add on for- Office + Shop overhead - 10% of line 4		
7. Profit - add 5% of line 4		
8. Total Job Cost - add 4-7 + Bid Figure		

1. Solve for total current in the following circuits and for the voltages across each inductor:



2. Solve for total current in the following circuits and for the voltages across each inductor and resistor :

