

Structures Skill: Information Sheet

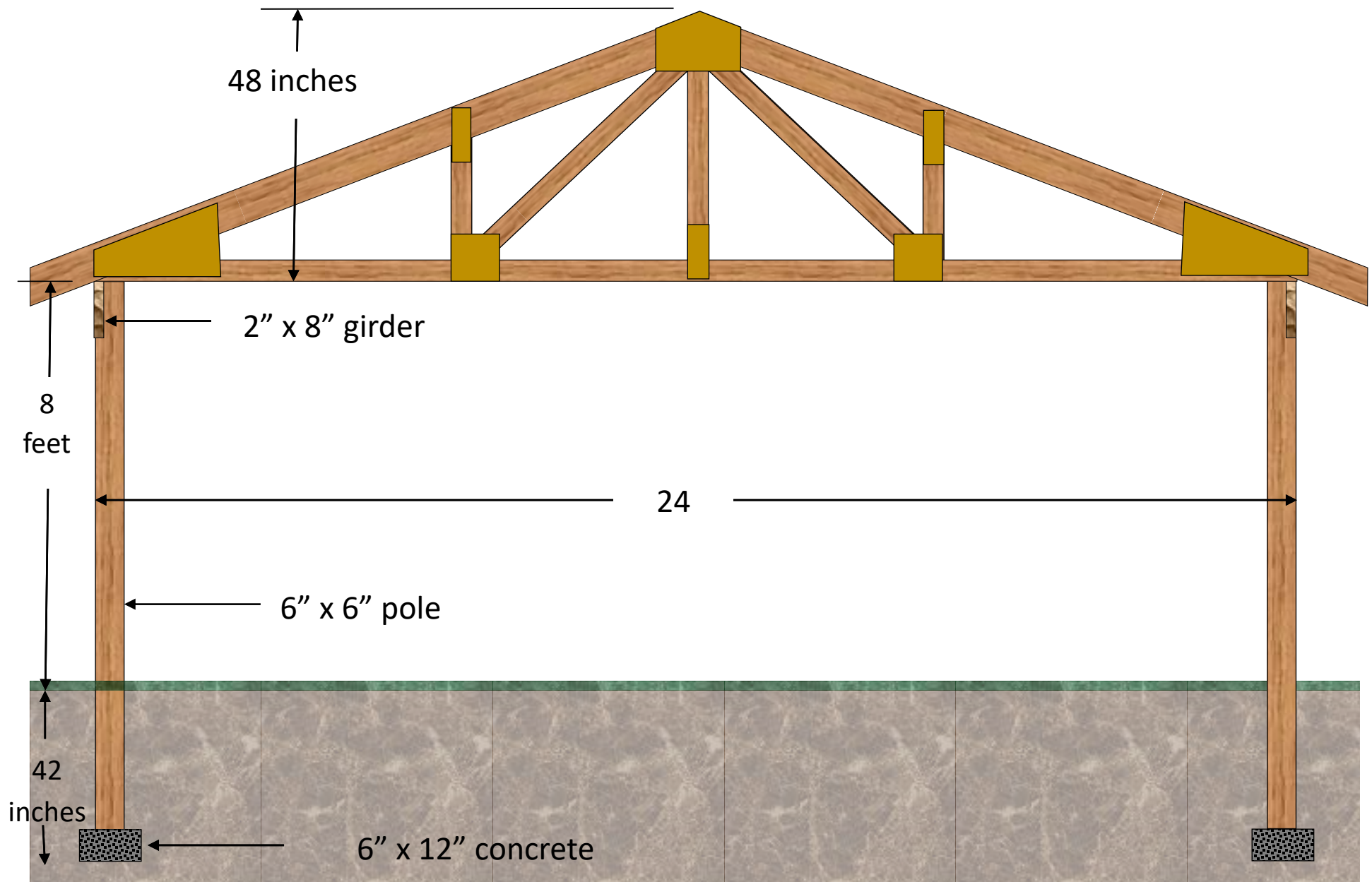


Figure 1. Pole Barn Illustration

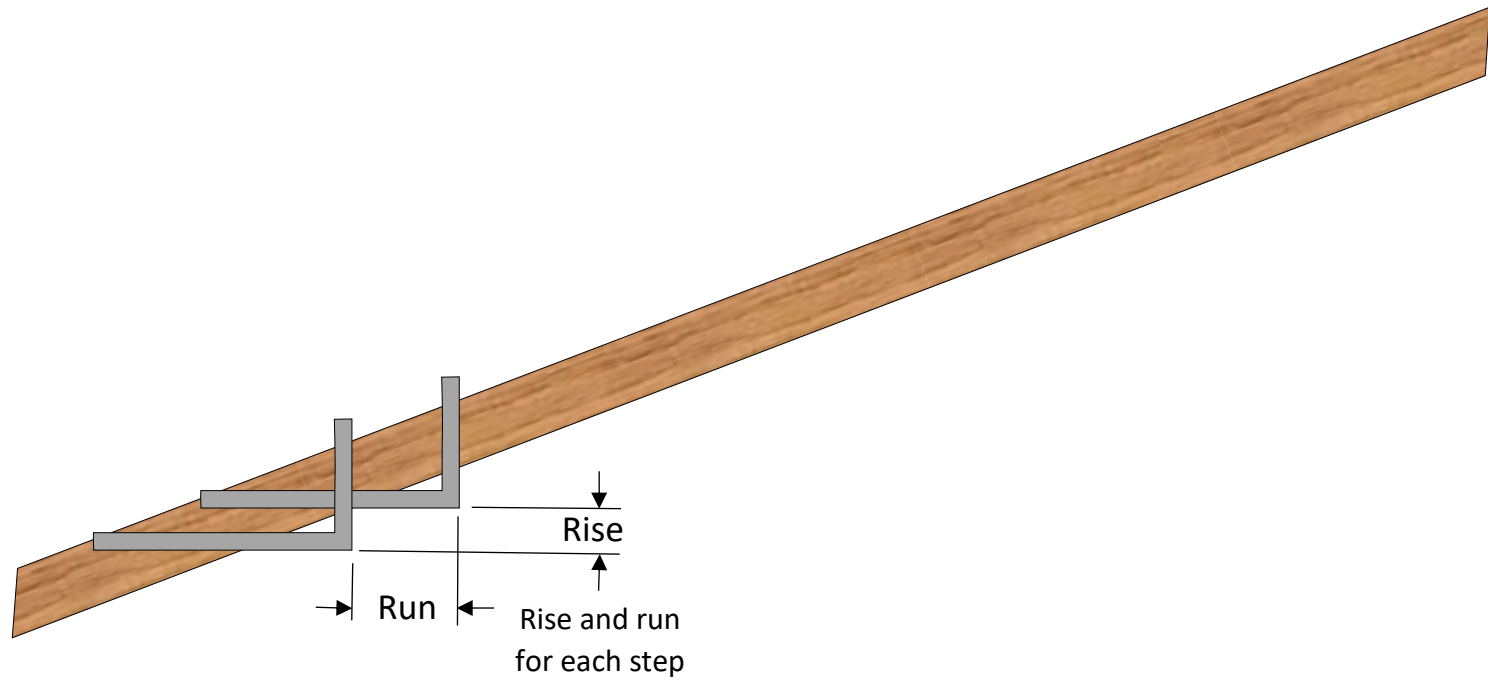
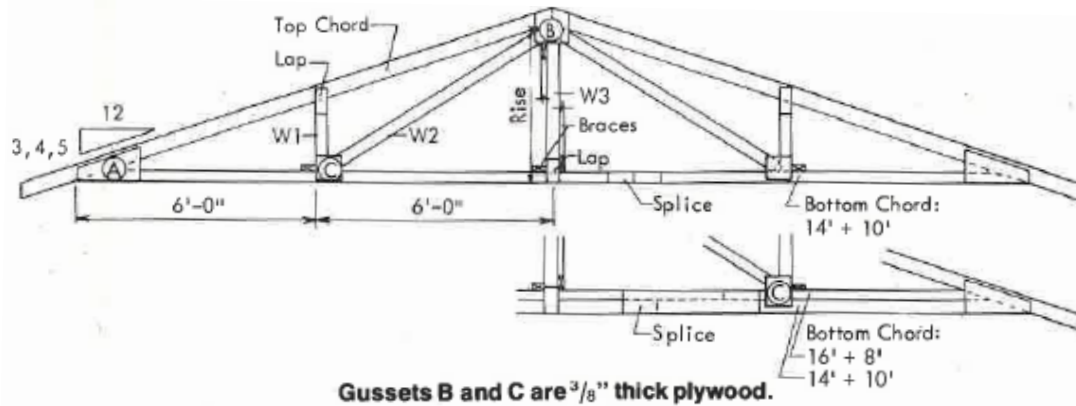


Figure 2. Rafter Layout Step Method



Figure 3. Lumber Stamp

Truss Rafter Design: 24' Span, 2-Web Truss



4+4, 4+6, 6+6 indicates stacked lower chord.
4&4, 6&4, indicate double web; a 2x4 is attached to the web member to increase its stiffness.

Before selecting heel gusset A, see pages 8 and 9.

Web Lengths

Roof Slope	Rise	Top Chord	W1	W2	W3
3/12	3'-0"	13'	2'	7'	3'
4/12	4'-0"	13'	2'	7'	4'
5/12	5'-0"	14'	3'	8'	5'

1100f Lumber

1100f Lumber				Truss spacing, ft.																	
		2'			4'			8'						Gusset Sizes, in.							
Top chord	Bottom chord	0	5	8	Ceiling dead load, psf			0	5	8	0	5	8	Web member sizes			A		B	C	
					0	5	8	0	5	8				W1	W2	W3	T	H	W	H	W
---Max. snow + roof dead load, psf---																					
3/12 Slope	2x4	2x4	31	29	27	13	0	0	0	0	0	0	0	2x4	2x4	2x4	3/8x3½x16		8x12	8x8	
	2x6	2x4	56	53	46	24	0	0	12	0	0	0	"	"	"	3/8x4x23		10x12	"		
	2x6	2x6	59	55	52	25	22	19	12	0	0	0	"	"	"	3/8x4x26		"	"		
	2x8	2x6	76	69	65	33	28	25	16	0	0	0	2x4	2x4	2x4	3/8x4x31		12x12	8x8		
	2x10	4+4	100+	100+	100+	52	46	34	26	0	0	0	"	"	"	½x4x28		14x16	10x10		
	2x12	4+6	-	-	-	66	58	54	33	27	16	0	"	"	"	3/8x4x47		16x16	12x10		
	2x12	6+6	-	-	-	67	61	57	33	28	24	0	"	"	"	3/8x4x51		"	14x12		
4/12 Slope	2x4	2x4	36	33	32	15	13	0	0	0	0	0	2x4	2x4	2x4	3/8x3½x14		8x12	8x8		
	2x6	2x4	71	67	54	31	13	0	15	0	0	0	"	"	"	3/8x4x22		10x12	8x10		
	2x6	2x6	68	64	62	30	26	25	15	0	0	0	"	"	"	3/8x4x23		"	"		
	2x8	2x6	100+	95	91	44	41	38	22	17	0	0	2x4	2x4	2x4	½x4x18		14x12	8x10		
	2x10	4+4	-	100+	100+	61	56	46	30	19	0	0	"	"	"	½x4x23		14x16	12x10		
	2x12	4+6	-	-	-	80	73	72	40	35	23	0	"	"	"	½x4x28		16x16	14x10		
	2x12	6+6	-	-	-	76	70	66	38	33	31	0	"	"	"	½x4x34		"	16x10		
5/12 Slope	2x4	2x4	39	37	35	17	15	0	0	0	0	0	2x4	2x4	2x4	3/8x3½x12		8x12	8x8		
	2x6	2x4	78	74	71	34	17	0	17	0	0	0	"	"	"	3/8x4x20		10x12	"		
	2x6	2x6	76	72	69	33	30	28	16	13	0	0	"	"	"	3/8x4x20		"	"		
	2x8	2x6	100+	100+	100+	49	46	44	24	20	0	0	2x4	2x4	2x4	½x4x16		12x16	8x10		
	2x10	4+4	-	-	-	68	62	53	34	18	0	0	"	"	"	½x4x18		14x16	10x10		
	2x12	4+6	-	-	-	87	80	79	43	39	27	0	"	"	"	½x4x23		16x16	12x10		
	2x12	6+6	-	-	-	84	77	73	42	37	35	0	"	"	"	½x4x28		18x16	16x10		