

HOMEWORK - LESSON 9 - KEY

1.) TRISE = 96"

a) $\frac{96''}{8''} = 12$ RISERS EXACTLY

$8''$ RISERS

b) $8''$ RISERS \times # RISERS = 96", so $\frac{96''}{8''} = 12$

12 RISERS

2.) TRISE = 101"

a) $\frac{101''}{8''} = 12.625$ RISERS, ROUND UP TO 13

$\frac{101''}{13 \text{ RISERS}} = \left(7 \frac{3}{4}'' \text{ PER RISER} \right)$

b) $7 \frac{3}{4}''$ RISER \times # RISERS = 101", so $\frac{101''}{7 \frac{3}{4}''} = 13$

13 RISERS

3.) TOTAL HEIGHT = 120", 8" SIDING, OVERLAP BTWN 1"-2"

a) $\frac{120''}{7''} = 17.14$, ROUND UP TO 18 COURSES

$\frac{120''}{18 \text{ COURSES}} = \left(6 \frac{11}{16}'' \text{ COURSE} \right)$

b) $6 \frac{11}{16}''$ COURSE \times # COURSES = 120", so $\frac{120''}{6 \frac{11}{16}''} = 18$ COURSES

4. TOTAL HEIGHT = 120", 6 $\frac{3}{4}$ " SIDINGS, OVERLAP BTWN 1" $\frac{3}{4}$ "

a) $\frac{120''}{5\frac{3}{4}''} = 20.8$ SO ROUND UP TO 21 COURSES

$$\frac{120''}{21 \text{ COURSES}} = 5\frac{11}{16}'' \text{ PER COURSE}$$

b) $\frac{5\frac{11}{16}''}{\text{COURSE}} \times \# \text{ COURSES} = 120''$, SO $\frac{120''}{5\frac{11}{16}''} = 21 \text{ COURSES}$

5. a) TOTAL POST TO POST = 78", MAX SPACE ≥ 4 ", 1 $\frac{1}{2}$ " BALUSTER

$$78'' + \underset{\substack{\uparrow \\ \text{GHOST}}}{1\frac{1}{2}''} = 79\frac{1}{2}''$$

$$\frac{79\frac{1}{2}''}{5\frac{1}{2}'' \text{ MAX O.C.}} = 14.45, \text{ ROUND TO } 15$$

$$\frac{79\frac{1}{2}''}{15 \text{ balusters}} = 5\frac{5}{16}'' \text{ O.C.}$$

b) POST TO POST = 6'-4", MAX SPACE ≥ 4 ", 1" BALUSTERS

$$6'-4'' + \underset{\substack{\uparrow \\ \text{GHOST}}}{1''} = 6'-5''$$

$$\frac{6'-5''}{5'' \text{ MAX O.C.}} = 15.4, \text{ ROUND TO } 16$$

$$\frac{6'-5''}{16 \text{ balusters}} = 4\frac{13}{16}'' \text{ O.C.}$$