

HMK 5 - KEY

PG 121

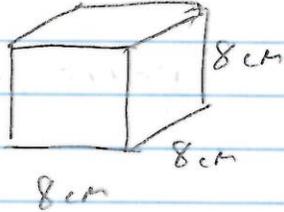
$$2) 12'' \times 12'' = \boxed{144 \text{ SQ IN}}$$

4) VOLUME OF CUBE

$$V = S \times S \times S \text{ OR } S^3$$

$$= 8\text{cm} \times 8\text{cm} \times 8\text{cm}$$

$$= 8\text{cm}^3 \text{ OR } \boxed{512\text{cm}^3}$$



PG 122

$$5) R = 2'-7''$$

$$A = \pi R^2$$

$$= 3.1416 (2'-7'')^2$$

$$= \boxed{20.966 \text{ FT}^2}$$

PG 128

$$2) \sqrt{100} = 10$$

$$5) \sqrt{529} = 23$$

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(2)

PG 129

7) WALL HT = 6'-0"
BRACE RUN = 9'-0"

$$\begin{aligned}\text{BRACE LENGTH} &= \sqrt{(6'-0'')^2 + (9'-0'')^2} \\ &= \sqrt{36 \text{ ft}^2 + 81 \text{ ft}^2} = \sqrt{117 \text{ ft}^2} \\ &= 10'-9 \frac{13}{16}''\end{aligned}$$

8) RISE = 12'-0"
RUN = 16'-0"

$$\begin{aligned}\text{STRINGER LENGTH} &= \sqrt{(12'-0'')^2 + (16'-0'')^2} \\ &= \sqrt{144 \text{ ft}^2 + 256 \text{ ft}^2} \\ &= \sqrt{400 \text{ ft}^2} \\ &= 20 \text{ ft}\end{aligned}$$

10) RISE = 2'-7"
RUN = 3'-9"

$$\begin{aligned}\text{STRINGER LENGTH} &= \sqrt{(2'-7'')^2 + (3'-9'')^2} \\ &= \sqrt{6.67 \text{ ft}^2 + 14.06 \text{ ft}^2} \\ &= 4'-6 \frac{5}{8}''\end{aligned}$$

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PG 130

$$\begin{aligned} 11) \quad AB &= 45' \\ AD &= 27' \end{aligned}$$

$$\begin{aligned} AC &= \sqrt{(45')^2 + (27')^2} \\ &= \sqrt{2025 \text{ ft}^2 + 729 \text{ ft}^2} \\ &= 52' - 5\frac{3}{4}'' \end{aligned}$$

$$\begin{aligned} 12) \quad AB &= 43' - 6'' \\ AD &= 32' - 6'' \end{aligned}$$

$$\begin{aligned} AC &= \sqrt{(43' - 6'')^2 + (32' - 6'')^2} \\ &= \sqrt{1892.25 \text{ ft}^2 + 1056.25 \text{ ft}^2} \\ &= 54' - 3\frac{5}{8}'' \end{aligned}$$

PG 131

$$\begin{aligned} 19) \quad \text{RUN} &= 12' \\ \text{RISE} &= 8' \end{aligned}$$

$$\begin{aligned} \text{LINE LENGTH} &= \sqrt{(12')^2 + (8')^2} \\ &= \sqrt{144 \text{ ft}^2 + 64 \text{ ft}^2} \\ &= 14.42 \text{ ft OR } 14' - 5\frac{1}{16}'' \end{aligned}$$

