

12 c)

Sand

Gravel

7.5% Water

2.0% Water

Let A = Mass Sand
Let B = Mass Gravel

2500 kg
3.75% Water

①

$$A + B = 2500 \text{ kg}$$

②

$$0.075A + 0.02B = 0.0375(2500)$$

Elimination Method:

① $\times 0.075$

$$0.075A + 0.075B = 187.5$$

②

$$0.075A + 0.02B = 93.75$$

$$0.055B = 93.75$$

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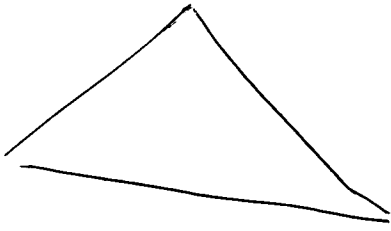
$$B = 1704.5 \text{ kg}$$

Sub into ①

$$A + (1704.5) = 2500$$

$$A = 795.5 \text{ kg}$$

d) Let a : largest angle
 b : middle angle
 c : smallest angle



① $a = 2\frac{1}{2}b$

② $c = (a - b) - 30^\circ$

* ③ $a + b + c = 180^\circ$ inside the triangle.

1-b from ② $c = a - b - 30^\circ$ into ③

1-b from ① $b = \frac{a}{2.5}$ into ③

$$a + \left(\frac{a}{2.5}\right) + [(a - b) - 30^\circ] = 180^\circ$$

$$1.4a + a - b - 30^\circ = 180^\circ$$

$$2.4a - b - 30^\circ = 180^\circ$$

$$2.4a - b = 110^\circ$$

call this eq ④

back.

① $a - 2.5b = 0^\circ$

④ $2.4a - b = 110^\circ$

$$\begin{array}{r} \textcircled{1} \times 2.4 \\ 2.4a - 6b = 0 \\ \textcircled{4} - 2.4a - b = 110^\circ \\ \hline -5b = -110^\circ \\ \hline b = 22^\circ \end{array}$$

$$\text{Sub } b = 22^\circ \text{ into } \textcircled{1}$$

$$a = 2\frac{1}{2}(22^\circ)$$

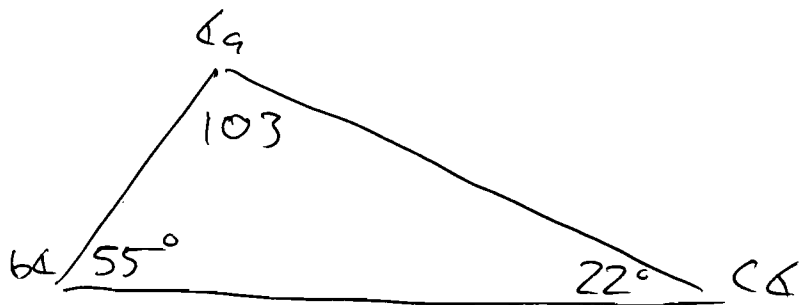
$$a = 55^\circ$$

$$\text{Sub } b = 22^\circ, a = 55^\circ \text{ into } \textcircled{3}$$

$$(55) + (22) + c = 180^\circ$$

$$c = 180 - 55 - 22$$

$$c = 103^\circ$$



e) let $(2x)$, $(2x+2)$, $(2x+4)$ be
consecutive even numbers.
& let $(2x+4)$ be the largest
even number.

$$\textcircled{1} \quad [(2x+2) + (2x)] - (2x+4) = \frac{1}{2}(2x+4)$$

leave as is.