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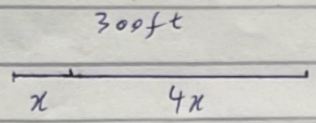
Write complete logic and steps in math portion
Work.on theory portion too

GSA Mock 7
Math (section II)

Q6(a)

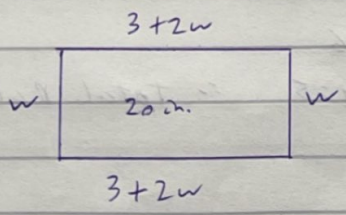


Total length = $x + 4x = 5x$

Length of shorter side = $\frac{1x}{5x} \times 300\text{ ft} = 60\text{ ft}$

Length of Longer side = $\frac{4x}{5x} \times 300\text{ ft} = 240\text{ ft}$

Q6(b)



Perimeter $= 2(l + w)$

$20\text{ in} = 2((3+2w) + w)$

$20 = (6 + 4w) + 2w$

$14 = 6w$

$\frac{7}{3} = w$

$w = 2\frac{1}{3}\text{ in.}$

length $= 3 + 2w$

$= 3 + 2\left(\frac{7}{3}\right)$

$= 3 + \frac{14}{3}$

$= \frac{9+14}{3} = \frac{23}{3}$ in

$= \frac{23}{3}$ in

(2)

Q6(c) Loss % = 40%

let total be = x

$\frac{2}{5} \times x = 24$

$x = \frac{24 \times 5}{2}$

$x = 60$ metres

Q6(d) let one value be = x

" another " " = y

$x : y = 3 : 2$ ∴ Total Ratio = 3+2 = 5

New value of $x = x+2$

" " " $y = y+6$

New ratios = 4 : 5 ∴ total Ratio = 4+5 = 9

Solving for x

$\frac{3}{5}x = \frac{4}{9} \times (x+2)$

$27x = 20x + 40$

$7x = 40$

$x = \frac{40}{7}$

Solving for y

$\frac{2}{5} \times y = (y+6) \times \frac{5}{4}$

$18y = 25y + 150$

$-150 = 7y$

$y = -\frac{150}{7}$

Q1(a) $\frac{325}{400} \times 100\% = 81.25\%$

$81.25\% = 81\frac{1}{4}\%$

$$\begin{array}{r} 81 \\ 4\overline{)325} \\ -32 \\ \hline 05 \\ -4 \\ \hline 1 \end{array}$$

$= 81\frac{1}{4}$ or

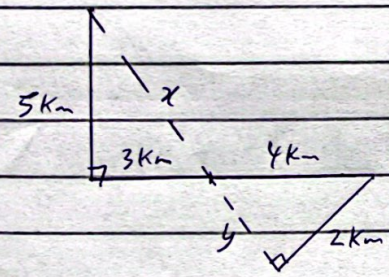
$= 81.25\%$

Q1(b)

Persons	Kg Sugar (kg)	Days
30	10	10
80	320	x

$\frac{x}{10} = \frac{320}{40} \times \frac{30}{80} \Rightarrow x = 30$ days

Q1(c)



Considering Right Angle Triangles

$x^2 = 3^2 + 5^2$

$x^2 = 9 + 25$

$x = \sqrt{36} \Rightarrow x = 6$ km

$y^2 + 2^2 = 4^2$

$y^2 + 4 = 16$

$y^2 = 20 \Rightarrow y = \sqrt{20}$ km

Total length $= x + y$

$= 6 + \sqrt{20}$

$= 6 + \sqrt{4 \times 5}$

$= 6 + 2\sqrt{5}$ km

④

Q 7 (d) $r = 10\ cm$ $h = 36\ cm$ $V = \pi r^2 h$

$V = \pi (10 \times 10)(36)$

$V = 3600\pi\ cm^3$