Memo → ex 5.6 nr's 1, 2 and {5 was optional}

1b) $\frac{\sin 40^\circ}{1} = \frac{AB}{20}$

$20 . \sin 40^\circ = AB$

$\therefore AB = 12,86$

a) $\frac{\cos 40^\circ}{1} = \frac{BC}{20}$

$20 . \cos 40^\circ = BC$

$\therefore BC = 15,32$

I switched my answers !!
→ did 'b' first and 'a' second.

2a) $\frac{\sin 20^\circ}{1} = \frac{50}{PR}$

$PR \cdot \sin 20^\circ = 50$

$\therefore PR = \frac{50}{\sin 20^\circ}$

$\therefore PR = 146,19$

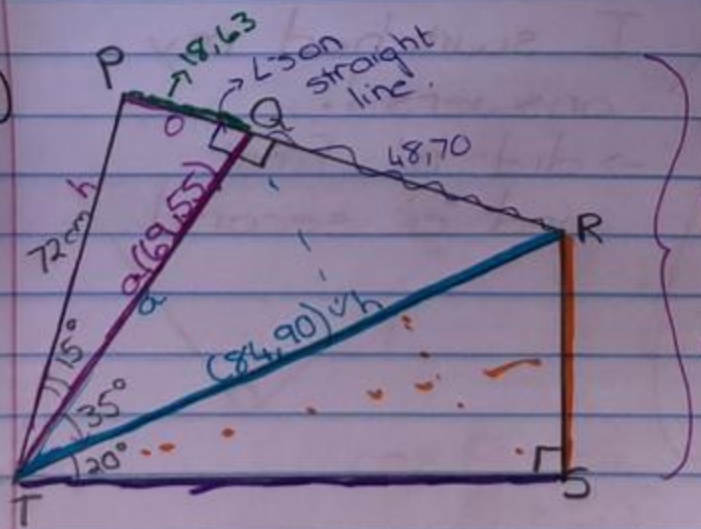
b) $\frac{\tan 20^\circ}{1} = \frac{50}{QR}$

$QR \cdot \tan 20^\circ = 50$

$\therefore QR = \frac{50}{\tan 20^\circ}$

$\therefore QR = 1$

5)



Break this question into smaller parts according to what is asked ....

a) QT is the common side of Δ PTQ and Δ QTR → in which Δ do you have the most info?? (in Δ PTQ !!)

a) in Δ PTQ: $\cos 15^\circ = \frac{QT}{72}$

$\therefore 72 \cos 15^\circ = QT$

$\therefore QT = 69,55$ cm

↳ go write this on the diagram.

b) in Δ PTQ: we need to find PQ.

*method 1: $\sin 15^\circ = \frac{PQ}{72}$

$\therefore 72 \sin 15^\circ = PQ$

$\therefore PQ = 18,63$ cm

*method 2: $x^2 + y^2 = r^2$ (pythag)

$(PQ)^2 + (69,55)^2 = (72)^2$

$\sqrt{PQ^2} = \sqrt{346,7975}$

$\therefore PQ = 18,62$ cm

c) in Δ QTR: $\cos 35^\circ = \frac{69,55}{TR}$

$\therefore TR \cdot \cos 35^\circ = 69,55$

$\therefore TR = \frac{69,55}{\cos 35^\circ}$

$\therefore TR = 84,90$ cm

d) in Δ QTR: $\sin 35^\circ = \frac{QR}{84,90}$ or $\tan 35 = \frac{QR}{69,55}$ or pythag

$\therefore 84,90 \sin 35^\circ = QR$

$QR = 48,70$ cm

e) $\sin 20^\circ = \frac{RS}{84,9}$

$\therefore 84,9 \cdot \sin 20^\circ = RS$

$\therefore RS = 29,03 \text{ cm}$

f) $\cos 20^\circ = \frac{TS}{84,9}$

$\therefore 84,9 \cdot \cos 20^\circ = TS$

$\therefore TS = 79,78 \text{ cm}.$

Memo → ex 5.7 nr 1 & 2

1a) $\sin \alpha = \frac{1,5}{2,1}$

$\alpha = 45,6°$

b) $\tan \alpha = \frac{4,2}{9,3}$

$\alpha = 24,3°$

c) $\sin \alpha = \frac{2,9}{3,5}$

$\alpha = 56,0°$

d) $\cos \alpha = \frac{12,8}{15}$

$\alpha = 31,4°$

e) in ΔABC; (I am 1st going to find $\hat{B}$)

$\sin \hat{B} = \frac{6}{10,6}$

$\hat{B} = 34,47438....$

Now, in ΔABD;

$\alpha = 180 - 90 - \hat{B}$ (interior $\angle$'s of Δ)

$\alpha = 55,5°$

2a) $\sin 58° = \frac{10,8}{x}$

$\therefore x \cdot \sin 58° = 10,8$

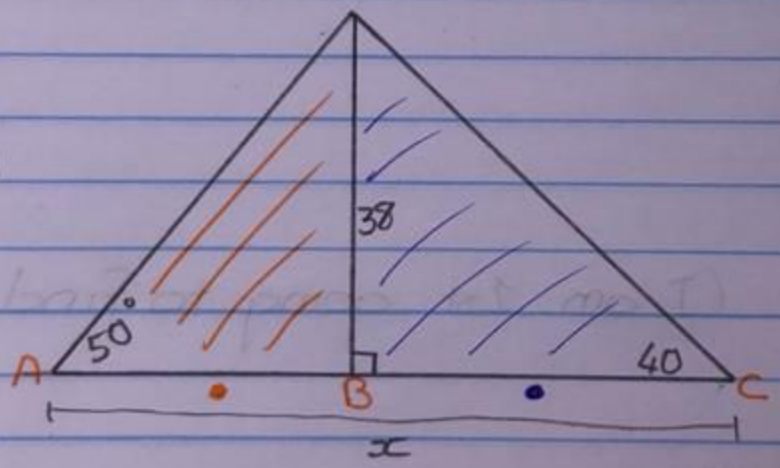
$\therefore x = \frac{10,8}{\sin 58°}$

$\therefore x = 12,74$

b) $\tan x = \frac{3,6}{3,6}$

$\therefore x = 45°$

c)



$\tan 50° = \frac{38}{AB}$ and $\tan 40 = \frac{38}{BC}$

$AB \tan 50° = 38$ $BC \tan 40 = 38$

$AB = \frac{38}{\tan 50}$ $BC = \frac{38}{\tan 40}$

$\therefore AB = 31,885...$ $BC = 45,2866...$

$+$

$\therefore x = 77,17$