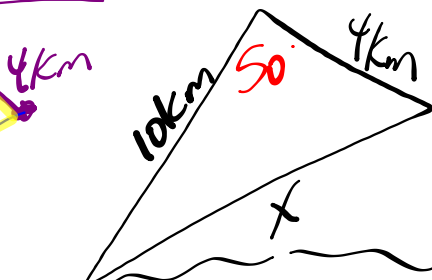
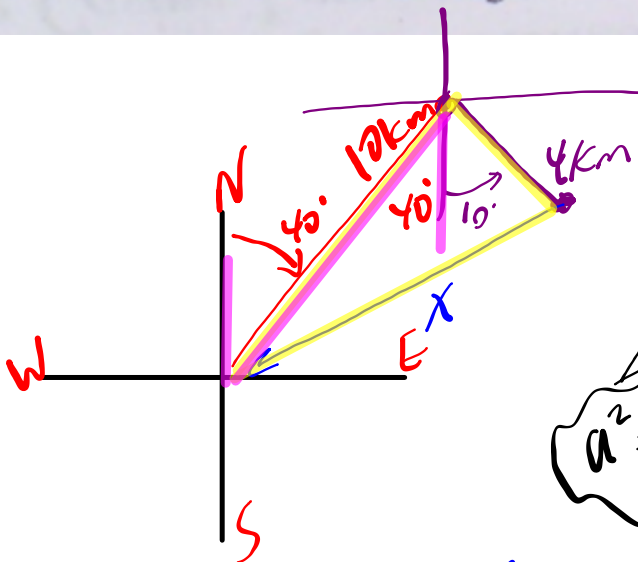


Booklet Questions... 10.12: #9 - 12

Questions?

11 Jean is a cross-country skier and skis 10 km in a direction $N40^\circ E$ of the ski lodge. At this point he turns and skis $S10^\circ E$ for 4 km and arrives at a chalet. How far is Jean from the lodge?



$$a^2 = b^2 + c^2 - 2bc \cos A$$

$$x^2 = 10^2 + 4^2 - 2(10)(4) \cos 50^\circ$$

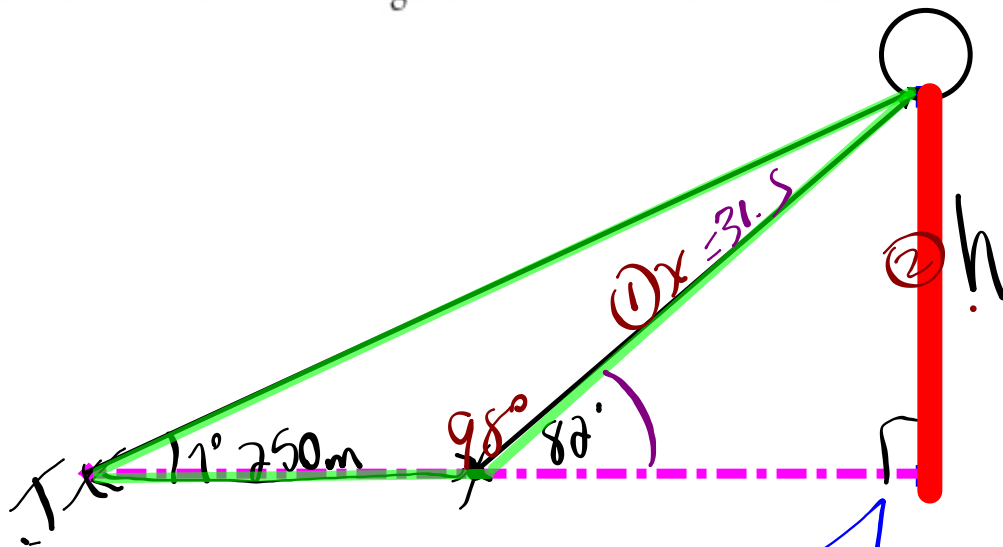
$x^2 =$	$10^2 + 4^2 - 2 * 10 * 4 * \cos(50)$
	64.57699123
$x =$	$\sqrt{\text{Ans}}$
	8.035981037

Distance to lodge is 8.10 km

EX #2: Solving an application question...

(p. 166)

Colleen and Juan observed a tethered balloon advertising the opening of a new fitness centre. They were 250 m apart, joined by a line that passed directly below the balloon, and were on the same side of the balloon. Juan observed the balloon at an angle of elevation of 7° while Colleen observed the balloon at an angle of elevation of 82° . Determine the height of the balloon to the nearest metre.



① $\frac{x \sin 7^\circ}{\sin 75^\circ} = \frac{250 \sin 7^\circ}{\sin 75^\circ}$
 $x = 31.5$

② $31.5 \sin 82^\circ = \frac{h}{31.5}$
 $31.2 \text{ m} = h$

HOMEWORK: More Applications/Word Problems
Page 152 #3 & page 154 #11, 12 * Bearings**
Page 154 #5, 6, 9, 10
Page 172 #9, 10, 12, 13, 14