

Quiz First

Today's Learning Goal(s):

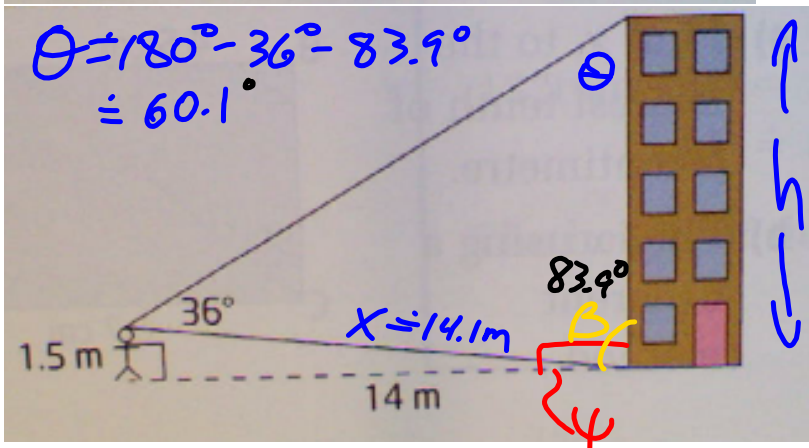
By the end of the class, I will be:

- a) ready for the Trigonometry Summative.

Correct Yesterday's work: p. 428 #6, 7, 8, 10

p. 428 #7

7. Trevor, who is 1.5 m tall, is standing at a distance of 14 m from a building. From his point of view, the bottom and top of the building are separated by 36° , as shown. How tall is the building, to the nearest tenth of a metre?



$$\theta = 180^\circ - 36^\circ - 83.9^\circ \\ \approx 60.1^\circ$$

Let h represent the building's height, in m.

$$X^2 = 14^2 + 1.5^2$$

$$= 198.25$$

$$X = \sqrt{198.25}$$

$$\approx 14.08$$

$$\approx 14.1 \text{ m}$$

$$\frac{h}{\sin 36^\circ} = \frac{14.1}{\sin 60.1^\circ}$$

$$h = \sin 36^\circ \times \frac{14.1}{\sin 60.1^\circ}$$

$$\approx 9.56$$

$$\approx 9.6 \text{ m}$$

\therefore the building's height is 9.6 m.



TOA

$$\tan \psi = \frac{1.5}{14}$$

$$\psi = \tan^{-1}\left(\frac{1.5}{14}\right)$$

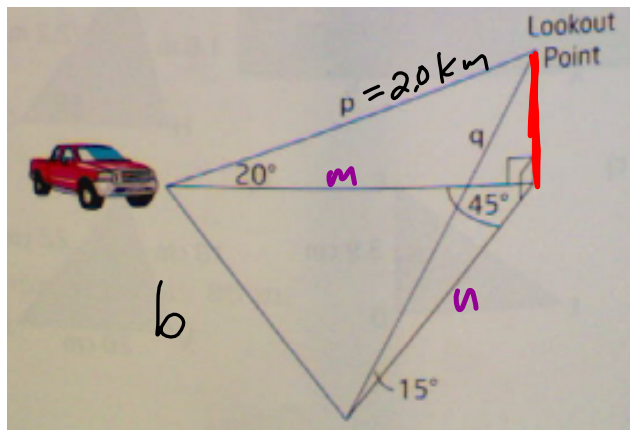
$$\approx 6.11$$

$$\approx 6.1^\circ$$

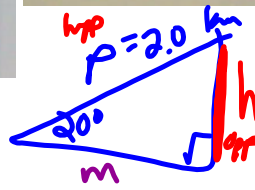
$$\beta = 90 - 6.1^\circ \\ = 83.9^\circ$$

p. 428 #10

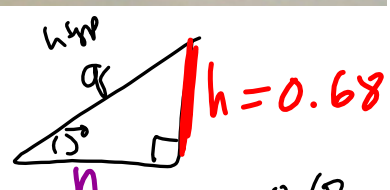
10. Lookout Point is accessible from two trails, both of which start from the same altitude and climb upward. Path p travels east to the point and climbs at an average angle of elevation of 20° . Path q travels northeast to the point at an average angle of elevation of 15° . Path p is 2.0 km long. Jack and Debbie parked at the base of path p . They hiked a round trip up path p to Lookout Point, then down path q , and then finally straight from the base of path q back to their truck. How far did they hike, to the nearest tenth of a kilometre? State any assumptions you make.



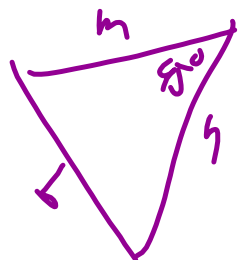
$$\begin{aligned} \text{Total Hike} &= p + q + b \\ &= 2.0 + 2.6 + \end{aligned}$$



$$\begin{aligned} \text{SOH} \\ \sin 20^\circ &= \frac{h}{2.0} \\ h &= 2.0 \sin 20^\circ \\ &\approx 0.6841 \text{ km} \\ &\approx 0.68 \end{aligned}$$



$$\begin{aligned} \sin 15^\circ &= \frac{0.68}{q} \\ q &= \frac{0.68}{\sin 15^\circ} \\ &\approx 2.64 \\ &\approx 2.6 \end{aligned}$$



Today's entertainment: PRACTICE TEST

Be ready for **Unit 7/8 Summative Tuesday!**

[pp. 390-391 #4ab, 5ab, 7, 8,
9abc (for c) use the Pythagorean Theorem), 11]

[pp. 432-433 #3, 5, 6, 8 to 15]

Continue working ahead on the Ch.7&8 Exam Review Sheet