Foundations of Math 11 - March
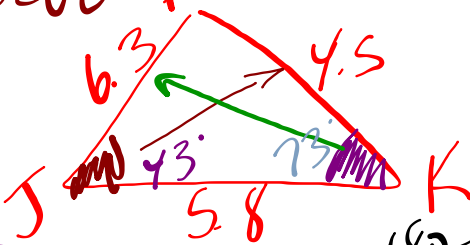
HOMEWORK: 10.11 #1, 2, 5ac, 7ab AND 10.12 #1, 2, 5, 6

Attachment	Size
foundations_of_math_per._2_-_march_16.pdf	1.7 MB
foundations_of_math_per._4_-_march_16.pdf	2.02 MB

Questions

10.11 SOLVE

7b)

$$\frac{\sin A}{a} = \frac{\sin B}{b}$$

$$\frac{\sin K}{6.3} = \frac{\sin 43°}{4.5}$$

$$\sin^{-1} \sin K = 0.9548$$

$$\angle K = 73°$$

$$\angle F = 180 - 43 - 73$$
$$\angle F = 64°$$

***SSS**

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

$$\cos J = \frac{6.3^2 + 5.8^2 - 4.5^2}{2(6.3)(5.8)}$$

$$\cos^{-1} J = \frac{53.08}{73.08}$$

$$\angle J = 43°$$

(triangle with vertices F, J, K; sides: 6.3 (FJ), 4.5 (FK), 5.8 (JK); angles 43° at J, 73° at K)

1) ∤ 1   Find the perimeter
of the triangular
plot of land as shown.

SAS

$a^2 = b^2 + c^2 - 2bc \cos A$
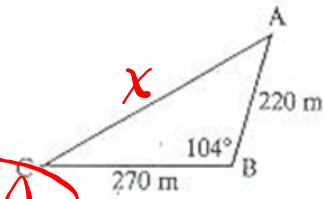
$x^2 = 270^2 + 220^2 - 2(270)(220)\cos 104°$

$x^2 = 270^2+220^2-2*270*220*\cos(104)$
$\quad\quad 150040.3212$
√(Ans
$\quad\quad 387.3503856$
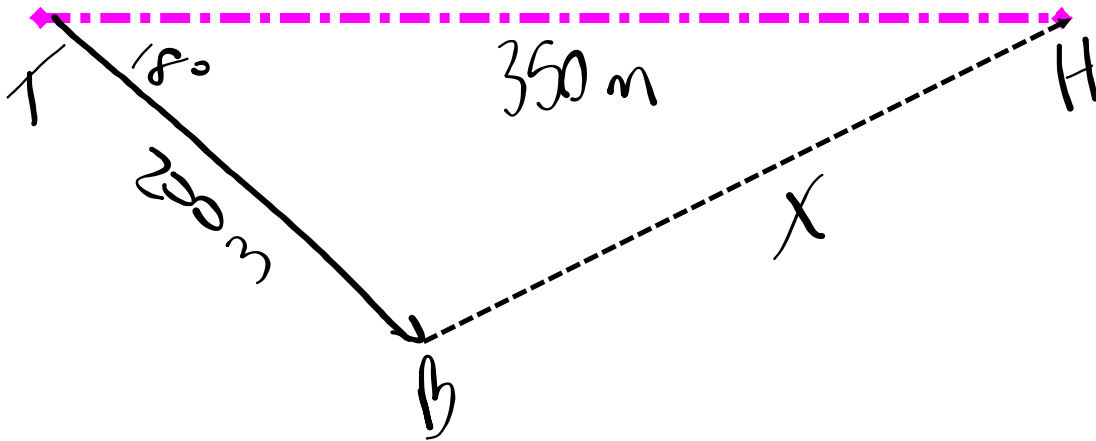
$x =$

$P = 387.4$
$\quad + 270$
$\quad + 220$
$\quad = 877.4 \text{ m}$

6   A golfer hits a tee shot on a 350 m long golf hole. The ball is sliced 18°
    to the right. If the ball travelled 200 m, how far is the ball from the golf
    hole, (to the nearest metre)?
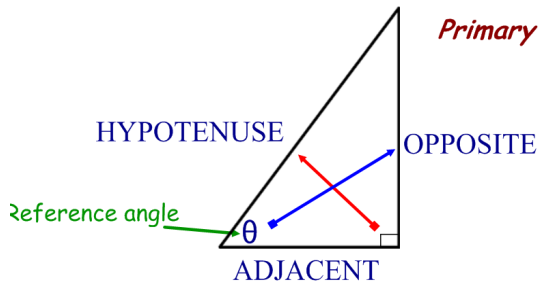
$$x^2 = 200^2 + 350^2 - 2(200)(350)\cos 18°$$

x^2

```
200²+350²-2*200*
350*cos(18)
        29352.08772
√(Ans
        171.32451
```

$x =$ ▪

Distance → 171.3m

REVIEW - What formula do I use? Ask yourself...

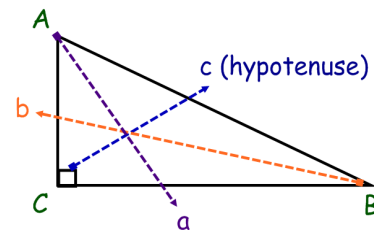- Is it a right triangle? If Yes, then...

Primary Trigonometric Ratios   Pythagorean Theorem

HYPOTENUSE   OPPOSITE
Reference angle θ
ADJACENT

$$\sin\theta = \frac{opp}{hyp}$$

$$\cos\theta = \frac{adj}{hyp}$$

$$\tan\theta = \frac{opp}{adj}$$

Memory Aid: "SOH CAH TOA"

A
b
c (hypotenuse)
C   a   B

$$c^2 = a^2 + b^2$$

- If you are finding a side, do you have **SAS**? If Yes, then...

Law of Cosines

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

- If you are finding an angle, do you have **SSS**? If Yes, then...

Law of Cosines (rearranged)

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

- Anything else...use your Law of Sines!

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

"when looking for a <u>side</u>"   "when looking for an <u>angle</u>"

HOMEWORK...

Puzzle Review - Primary Trig, Law of Sines_Cosines.pdf

$\sin \theta = \dfrac{opp}{hyp}$

$\cos \theta = \dfrac{adj}{hyp}$

$\tan \theta = \dfrac{opp}{adj}$

$c^2 = a^2 + b^2$

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

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

$\dfrac{a}{\sin A} = \dfrac{b}{\sin B} = \dfrac{c}{\sin C}$

$\dfrac{\sin A}{a} = \dfrac{\sin B}{b} = \dfrac{\sin C}{c}$

In Class Assignment on Wednesday!

Attachments

Puzzle Review - Primary Trig, Law of Sines_Cosines.pdf