

Bell Work - IB Math Studies 2

The propositions p , q and r are defined as follows:

p : this is a good course

q : the course is worth taking

r : the grading is lenient

(a) Write a symbolic statement for each of the following sentences.

(i) If this is a good course, then it is worth taking.

$$p \rightarrow q$$

(ii) Either the grading is lenient, or the course is not worth taking.

$$r \vee \neg q$$

Chapter 15

Trigonometry

Today:

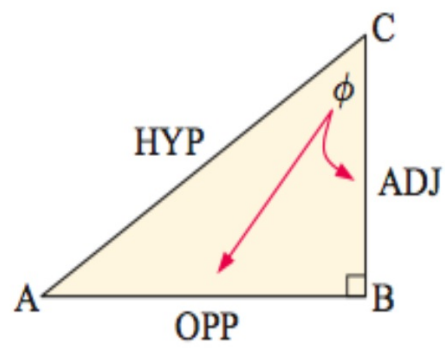
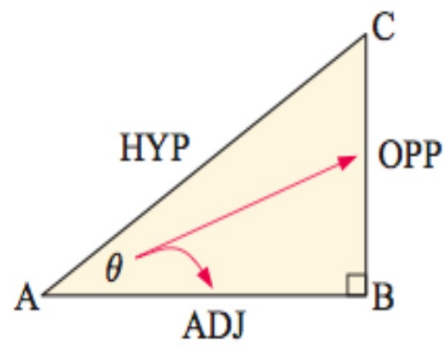
A

LABELLING RIGHT ANGLED TRIANGLES

B

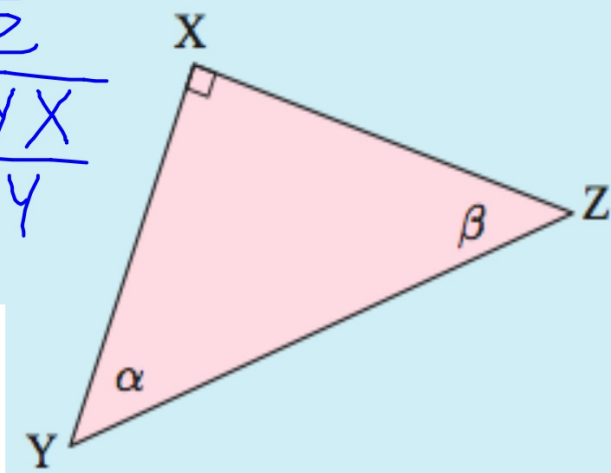
THE TRIGONOMETRIC RATIOS

*including using trig to find unknown sides and angles

A**LABELLING RIGHT ANGLED TRIANGLES**

For the triangle alongside, find the:

- a hypotenuse \overline{YZ}
- b side opposite α \overline{XZ}
- c side adjacent to α \overline{YX}
- d side opposite β \overline{XY}
- e side adjacent to β .
 \overline{XZ}



B**THE TRIGONOMETRIC RATIOS**

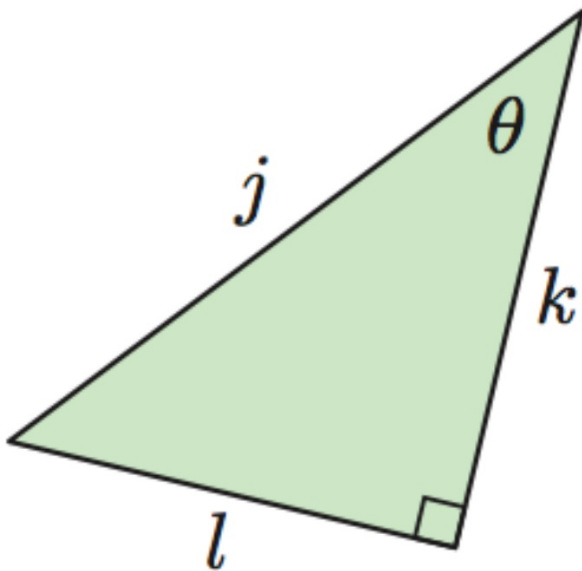
SOH CAH TOA

$$\sin \theta = \frac{\text{OPP}}{\text{HYP}}$$

$$\cos \theta = \frac{\text{ADJ}}{\text{HYP}}$$

$$\tan \theta = \frac{\text{OPP}}{\text{ADJ}}$$

List the sine, cosine and tangent of angle θ



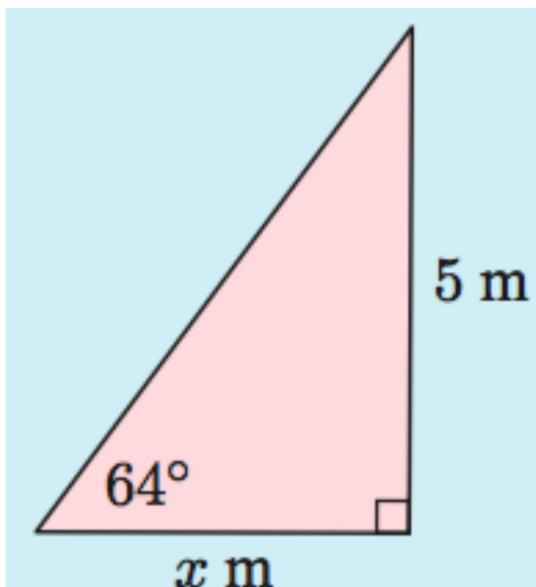
$$\sin \theta = \frac{l}{j}$$

$$\cos \theta = \frac{k}{j}$$

$$\tan \theta = \frac{l}{k}$$

FINDING SIDES

Find, to 3 significant figures, the unknown length in the following triangles:



Make sure your calculator is set to degrees mode.

What do you know?
What do you want?

opp

adj

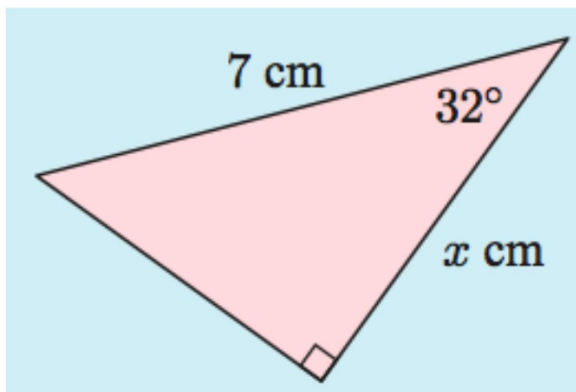


$$\tan 64 = \frac{5}{x}$$

$$x = 2.49$$

$$\frac{5}{\tan 64} = x$$

Find, to 3 significant figures, the unknown length in the following triangles:



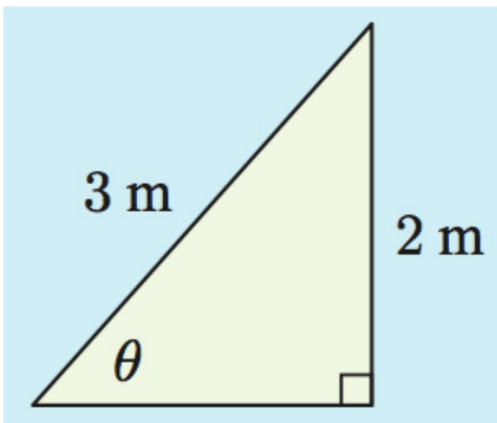
$$\cos 32 = \frac{x}{7}$$

$$7 \cdot \cos 32 = x$$

$$5.94 = x$$

FINDING ANGLES

Find, to 3 significant figures, the measure of the angle marked θ in:

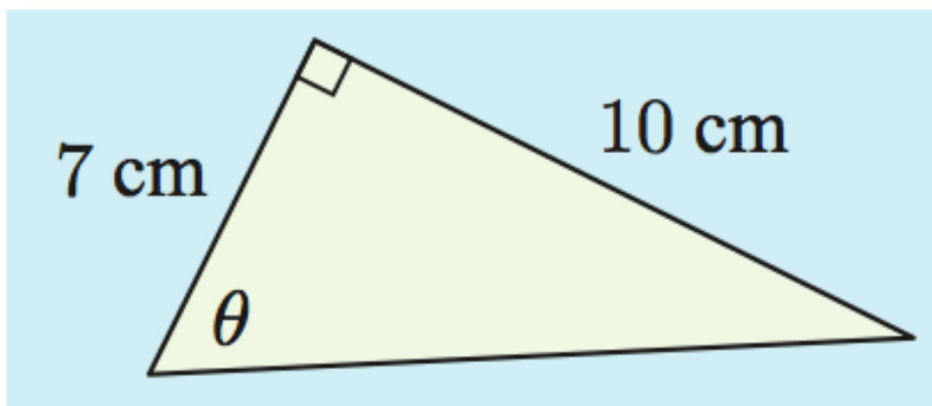


$$\sin \theta = \frac{2}{3}$$

$$\sin^{-1}\left(\frac{2}{3}\right) = \theta$$

$$41.8^\circ = \theta$$

Find, to 3 significant figures, the measure of the angle marked θ in:



Today:

A

LABELLING RIGHT ANGLED TRIANGLES

B

THE TRIGONOMETRIC RATIOS

*including using trig to find unknown sides and angles

Assignment:

15 B.1 #4

15 B.2 #2 a-d, #4

15 B.3 #1 a-d, #3, #4