

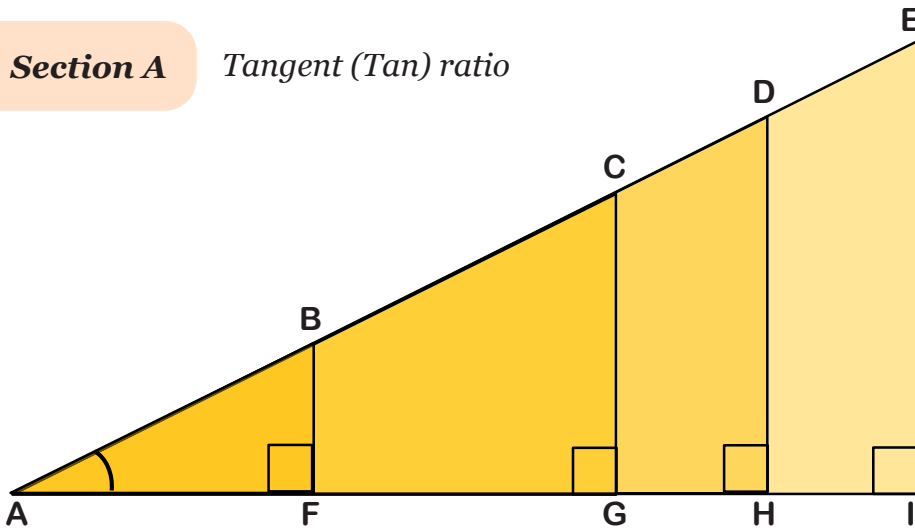
Discovering Trigonometry

ANSWERS
Slight measurement differences are to be expected **cazoom!**



Each triangle contains similar right angled triangles.
Measure then divide the lengths given in each box.
Leave all answers to 2 decimal places.

Section A Tangent (Tan) ratio

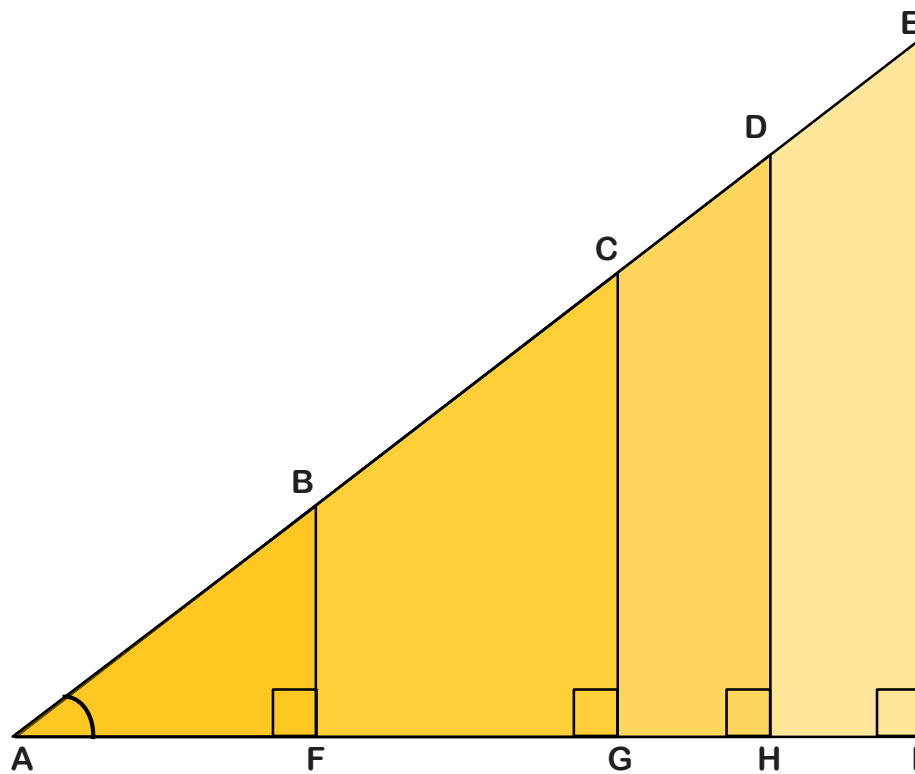


Angle BAF =

$\frac{BF}{AF} =$ $\frac{CG}{AG} =$

$\frac{DH}{AH} =$ $\frac{EI}{AI} =$

Tan ($\hat{B}AF$) =

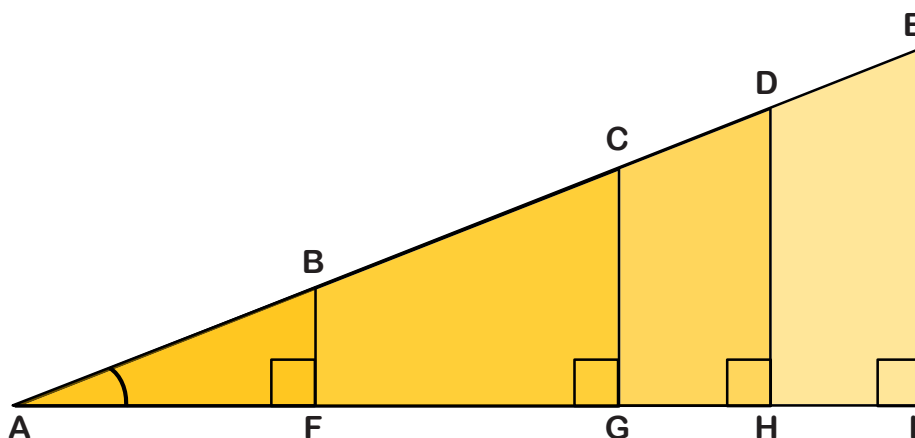


Angle BAF =

$\frac{BF}{AF} =$ $\frac{CG}{AG} =$

$\frac{DH}{AH} =$ $\frac{EI}{AI} =$

Tan ($\hat{B}AF$) =



Angle BAF =

$\frac{BF}{AF} =$ $\frac{CG}{AG} =$

$\frac{DH}{AH} =$ $\frac{EI}{AI} =$

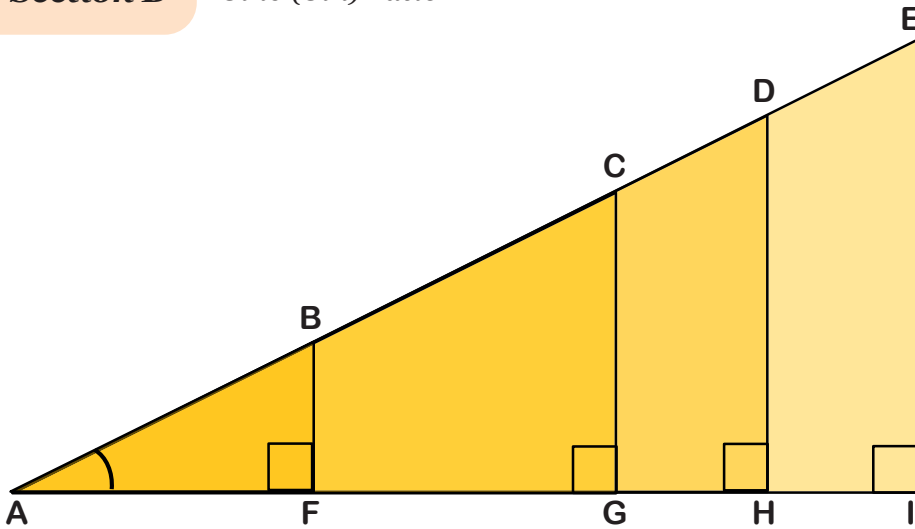
Tan ($\hat{B}AF$) =

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Section B Sine (Sin) ratio



Angle BAF = **26°**

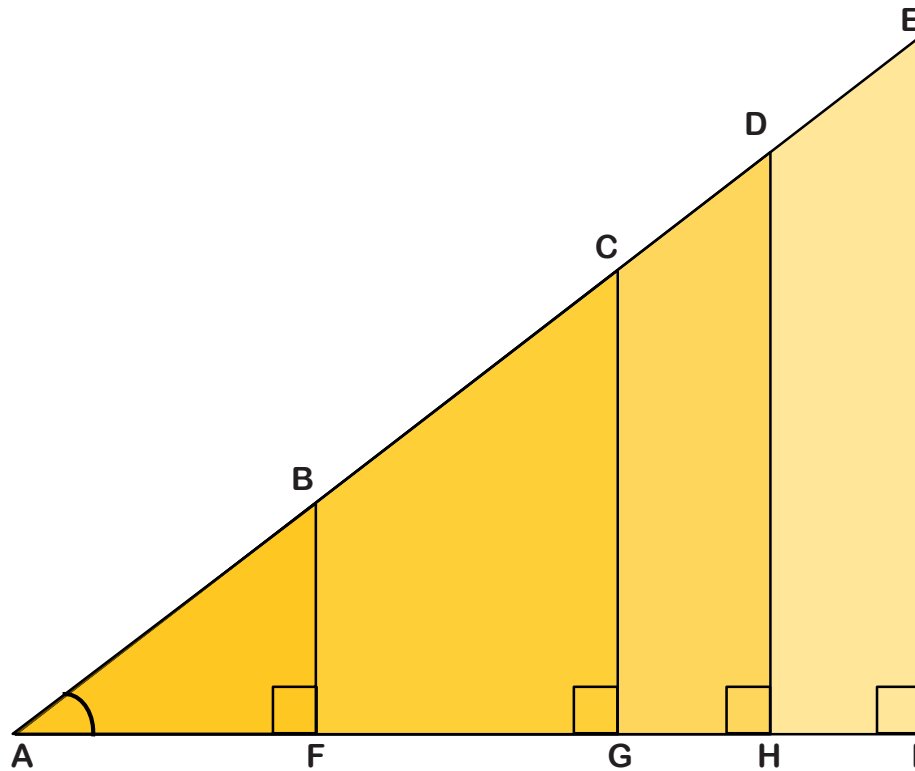
$\frac{BF}{AB} = 0.44$

$\frac{CG}{AC} = 0.40$

$\frac{DH}{AD} = 0.47$

$\frac{EI}{AE} = 0.44$

Sin ($\hat{B}AF$) = **0.44**



Angle BAF = **37°**

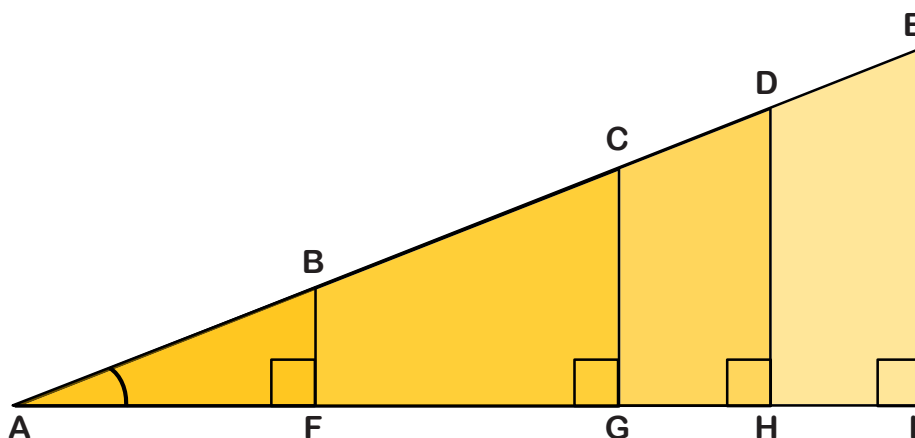
$\frac{BF}{AB} = 0.60$

$\frac{CG}{AC} = 0.60$

$\frac{DH}{AD} = 0.61$

$\frac{EI}{AE} = 0.61$

Sin ($\hat{B}AF$) = **0.60**



Angle BAF = **20°**

$\frac{BF}{AB} = 0.36$

$\frac{CG}{AC} = 0.36$

$\frac{DH}{AD} = 0.36$

$\frac{EI}{AE} = 0.36$

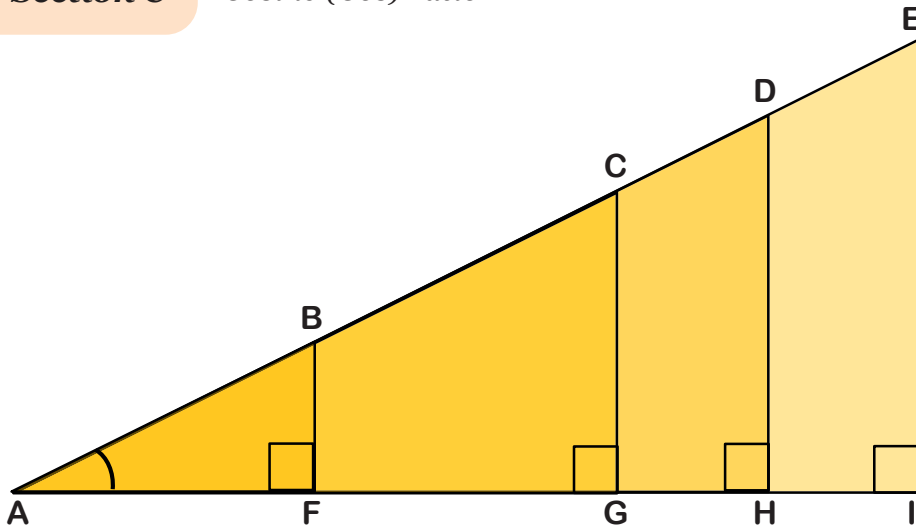
Sin ($\hat{B}AF$) = **0.34**

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Slight measurement differences are to be expected **cazoom!**



Section C Cosine (Cos) ratio



Angle BAF = **26°**

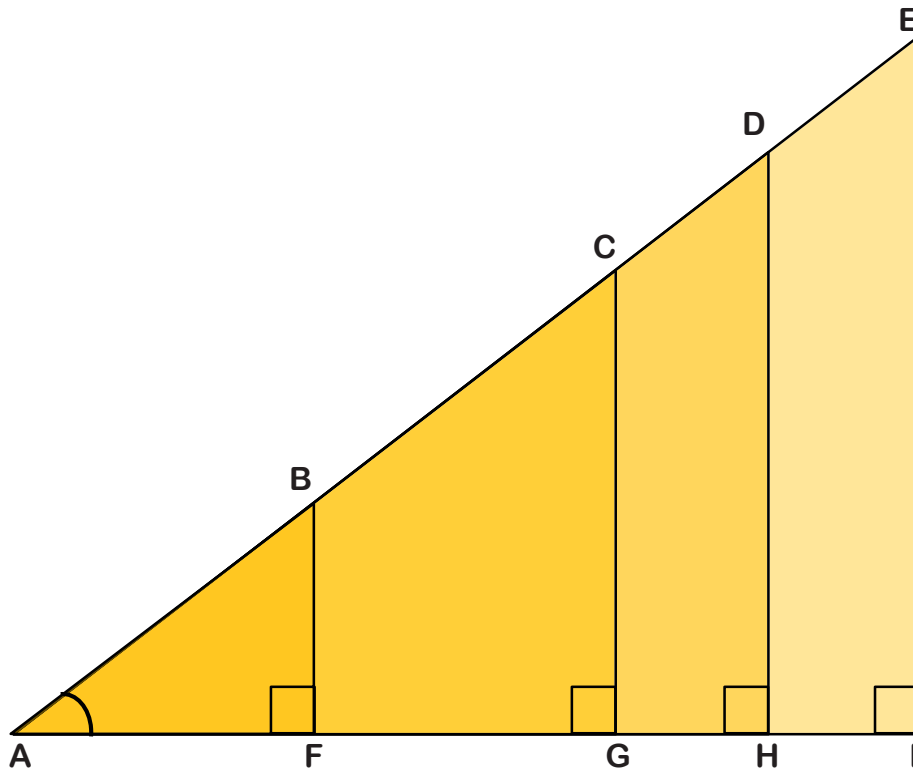
$\frac{AF}{AB} = 0.90$

$\frac{AG}{AC} = 0.89$

$\frac{AH}{AD} = 0.89$

$\frac{AI}{AE} = 0.89$

$\cos(\hat{BAF}) = 0.90$



Angle BAF = **37°**

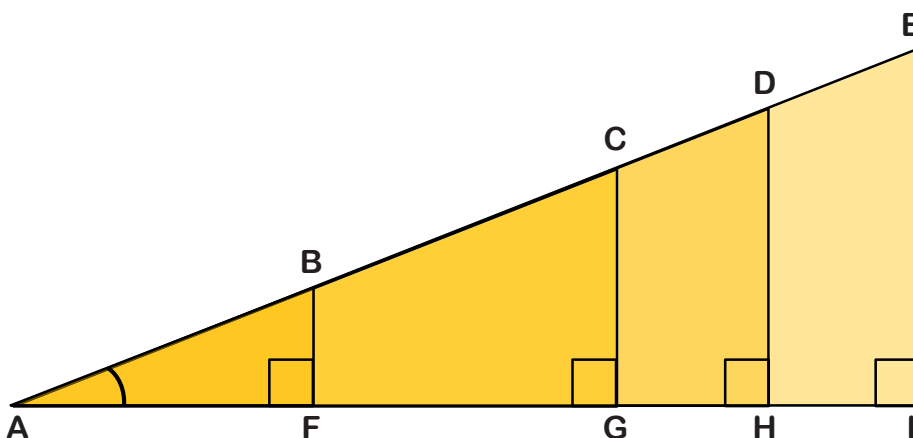
$\frac{AF}{AB} = 0.80$

$\frac{AG}{AC} = 0.80$

$\frac{AH}{AD} = 0.79$

$\frac{AI}{AE} = 0.79$

$\cos(\hat{BAF}) = 0.80$



Angle BAF = **20°**

$\frac{AF}{AB} = 0.95$

$\frac{AG}{AC} = 0.94$

$\frac{AH}{AD} = 0.93$

$\frac{AI}{AE} = 0.93$

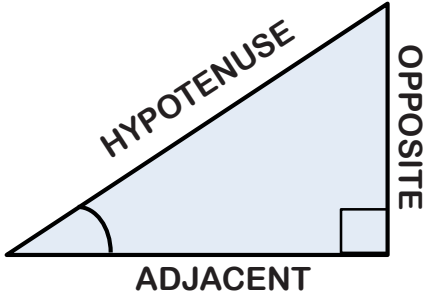
$\cos(\hat{BAF}) = 0.94$

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Slight measurement differences are to be expected 

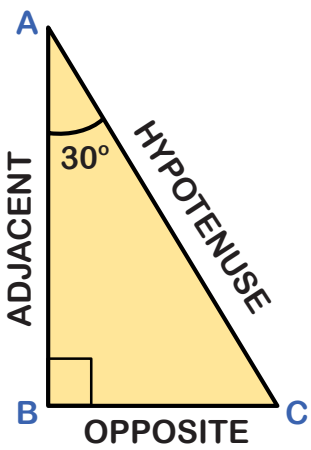


Section D Using your investigation above, match the following cards.



Sine (Sin)	OPPOSITE ADJACENT
Cosine (Cos)	OPPOSITE HYPOTENUSE
Tangent (Tan)	ADJACENT HYPOTENUSE

Section E

	Use a ruler to work out the following:	Use your calculator to work out the following:
	$\frac{OPP}{HYP} = 0.51$	$\sin 30^\circ = 0.50$
	$\frac{ADJ}{HYP} = 0.85$	$\cos 30^\circ = 0.87$
	$\frac{OPP}{ADJ} = 0.60$	$\tan 30^\circ = 0.58$

What do the findings in this table show you? **Trig functions give true ratio.**
(Slight differences are due to measurement errors).

Section F

How might we use the things below to solve problems involving missing lengths and missing angles in right angled triangles?

SOHCAHTOA

