Subject	Year	Month	
Mathematics	11	September	Balcarras From strength to strength

Topic:

Graphs of trigonometric functions

3 lessons

Content (Intent)

Prior Learning

Year 10 Basic trigonometry January
Year 11 Advanced trigonometry September

Future Learning

Year 12
Pure Chapter 9 Trigonometric ratios
Pure Chapter 10 Trig identities and equations

Objectives

- Recognise, sketch and interpret graphs of the trigonometric functions $y = \sin x$, $y = \cos x$ and $y = \tan x$ for angles of any size.
- Use trigonometric graphs to solve problems such as 'Show that one solution to $3\sin\theta = 1$ is 19.5. Hence solve the equation for all values of θ for 0 to 720.'
- Know the exact values of $\sin\theta$ and $\cos\theta$ for $\theta = 0°, 30°, 45°, 60°$ and $90°$ and exact value of $\tan\theta$ for $\theta = 0°, 30°, 45°$ and $60°$ and find them from graphs.

Pedagogical notes (implementation)

This work could be supported by the used of graphical calculators or suitable ICT.
Students need to recall the above exact values for sin, cos and tan.
Unit circle for top groups

How will understanding be assessed & recorded (Impact)

End of half term no
End of Year Mocks in November yr11

How can parents help at home?

MathsWatch clips (Qualification KS4)

195a: Trigonometric Graphs – Sine and Cosine
195b: Trigonometric Graphs – Tangent
196b: Transformation of Trigonometric Functions
173: Exact Trigonometric Values

Further reading/discussion

Reading / Enrichment	Literacy	Numeracy Links	Careers Links
http://passyworldofmathematics.com/mathematics-of-ocean-waves-and-surfing/ http://passyworldofmathematics.com/wave-power-mathematics/			Engineer Medical Technician Statistician Radiologist Surveyor