

No. 43. TRIGONOMETRY.

JUNIOR.

1. What are the six commonly used trigonometrical ratios? Explain them and draw a figure to show what you mean.
2. A ship steaming North at 12 miles an hour sights a lighthouse bearing North East. A quarter of an hour later the lighthouse bears due East. How far off the lighthouse is the ship passing?
3. Prove that:—
 - (1) $\sin^2 A \cot^2 A + \cos^2 A \tan^2 A = 1$.
 - (2) $\tan A + \cot A = \sec A \operatorname{cosec} A$.
4. Define a radian and find the number of radians in each interior angle of a regular hexagon.
5. What is meant by a compound angle? Prove that $\sin (A+B) = \sin A \cos B + \cos A \sin B$.

No. 44. TRANSLATION FROM ENGLISH INTO CHINESE.

Class I to attempt the first two pieces; Class II the second and third pieces; Class III the third piece.

I.

There lies a vale in Ida, lovelier
Than all the valleys of Ionian hills.
The swimming vapour slopes athwart the glen,
Puts forth an arm, and creeps from pine to pine,
And loiters, slowly drawn.

II.

Therefore it is said: "Though the outer and the inner walls be unfinished, though there be scant show of weapons and armour, not of such are the ills of countries. Though the fields and lands be not extended, though stores of wealth be not gathered together, not of such is the ruin of countries." But when those in high places do the things that are unseemly and when the humble are set against learning, in that day there shall be born sedition, and destruction shall come before the evening.

III.

The Humble Petition of—

Your Petitioner has long lived in Hongkong, quietly trading as a seller of broken iron. Now unexpectedly he has been arrested for having no licence. He begs your Honour will assist him. And he as in duty bound will ever pray, &c.

Honourable Registrar General.

No. 45. TRANSLATION FROM CHINESE INTO ENGLISH.

(CLASSES I, II & III.)

CLASS III TO DO QUESTION I ONLY.

I.

蟻化為人

桓謙字敬祖太原中忽見
有人皆長寸餘持槊乘馬
從堽中出精光耀日遊走
宅上數百爲羣部陣指揮
更相撞刺馬旣輕快人亦
鞭捷能緣几登竈尋飲食
之所或有切肉輒來叢聚
力所能勝者以槊刺取逕
入穴中桓遂作沸湯澆所
入處因掘之有斛許大蟻
死在穴中

II.

該船必須將茶葉裝回香港
昨接來函是於
是以多報少
論何處之兵