

National 5 Mathematics

REPORT 2

Knox Academy

NUMERACY AND COMPUTING FACULTY



Resources to support achieving SMART Targets

Surd		Simplifying surds	https://youtu.be/xh4GQzQrAPl
		Rationalising the denominator	https://youtu.be/kl-hYLuJ88M
		Simplifying surds	https://youtu.be/PgfbzNi0kug
		Rationalising the denominator	https://youtu.be/Foe30lhDJPY
		Simplifying surds	https://youtu.be/cPC3B18xvaQ
		Rationalising the denominator	https://youtu.be/KXYVx7aRKMU

Indices and Scientific Notation		Multiplying and dividing indices	https://youtu.be/saG_trWz6sc
		More laws of indices	https://youtu.be/aj-mbLoQgHQ
		Calculations using scientific notation	https://youtu.be/IEpT1gRLITk
		Multiplying and dividing indices	https://youtu.be/Uuylb56Uisc
		More laws of indices	https://youtu.be/fR6dk6Pr_jw
		Calculations using scientific notation	https://youtu.be/pL1CC482ges
		Multiplying and dividing indices	https://youtu.be/dGhaFhtUePU
		More laws of indices	https://youtu.be/YPw1Misqlmk
		Calculations using scientific notation	https://youtu.be/wzCY6i-AGM

Percentages		Calculating an original quantity	https://youtu.be/SR-xa21SHoc
		Appreciation	https://youtu.be/6Q2JNbbf9E
		Depreciation	https://youtu.be/kVIHEsg1v54
		Calculating an original quantity	https://youtu.be/Lzj10DhtUts
		Appreciation	https://youtu.be/vJByXuB9BZg
		Depreciation	https://youtu.be/XK4AvAi_v3g
		Calculating an original quantity	https://youtu.be/ZNVX1c4arQo
		Appreciation	https://youtu.be/li3RE2X33ks
		Depreciation	https://youtu.be/l-Qoxe29ZRg

Fractions		Adding & subtracting fractions	https://youtu.be/d-Zxf9NHsy8
		Multiplying fractions	https://youtu.be/qB_9Y7aHnTU
		Dividing fractions	https://youtu.be/KXxzPvvYUY
		Adding & subtracting fractions	https://youtu.be/eHKhtbLe8O0
		Multiplying fractions	https://youtu.be/f3UXc3L77tM
		Dividing fractions	https://youtu.be/Y8_tYesP5uc
		Adding & subtracting fractions	https://youtu.be/YU_9KI_7hJc
		Multiplying fractions	https://youtu.be/oJihvEkLil
		Dividing fractions	https://youtu.be/wdLg-mzKB08

Expressions (Brackets)		Multiplying out single brackets	https://youtu.be/GUOZ-JsOJFI
		Multiplying out double brackets	https://youtu.be/feh6NwvbQMs
		Multiplying out triple brackets	https://youtu.be/gOIfNV0RvLU
		Multiplying out single brackets	https://youtu.be/P9XL20Wo1Bo
		Multiplying out double brackets	https://youtu.be/KCQuPlxdEFM
		Multiplying out triple brackets	https://youtu.be/rkf-MiLqZBE
		Multiplying out single brackets	https://youtu.be/6J2bH88xEaE
		Multiplying out double brackets	https://youtu.be/0YWz_XeWrmU
		Multiplying out triple brackets	https://youtu.be/CP-uTkESLYM

Expressions (Factorising)		Common factor	https://youtu.be/rTrlQNINkeA
		Difference of 2 squares	https://youtu.be/fGlr-oetaA
		Trinomials	https://youtu.be/-oiQbk8OrPU
		Common factor	https://youtu.be/GC2koiky94c
		Difference of 2 squares	https://youtu.be/Yog87K3kqhY
		Trinomials	https://youtu.be/nytOokg8Jj8
		Common factor	https://youtu.be/r-qB7_38b1g
		Difference of 2 squares	https://youtu.be/_MJG4D9Bv38
		Trinomials	https://youtu.be/MuZ7W2IsnCo

Completing the Square		Completing the square	https://youtu.be/h0_AZUsaS_c
		Completing the square	https://youtu.be/rycpYrryxgq
		Completing the square	https://youtu.be/hNtmZR5Qu80

Equation of a Straight Line		Calculating the gradient of a line	https://youtu.be/eywBJcmHD8
		Calculating the gradient of a line	https://youtu.be/vPilhnyRTjg
		Calculating a point when given gradient	https://youtu.be/KY7qQWEQeT0
		Calculating equation of straight line	https://youtu.be/yC5cXYGfyjo
		Calculating equation of straight line	https://youtu.be/tcCcEeriTmc
		Calculating equation of straight line	https://youtu.be/o1wKUjgoYG0

Solving Equations and Inequalities		Solving linear equations	https://youtu.be/b5CUJXFsj9o
		Solving linear inequalities	https://youtu.be/UJ9rg7JP0OE
		Solving linear equations	https://youtu.be/A8zhs3Kza8s
		Solving linear inequalities	https://youtu.be/_Irl8-JaeqQ
		Solving linear equations	https://youtu.be/ipaEbEuVrkU
		Solving linear inequalities	https://youtu.be/MXCKNMQSee4

Simultaneous Equations		Solving simultaneous equations	https://youtu.be/rlYY66gPUZE
		Solving simultaneous equations	https://youtu.be/SkodDmej-ow
		Solving simultaneous equations	https://youtu.be/rogcty4CNlY

Changing the Subject		Changing subject of formula – 1 step	https://youtu.be/yczCIJA49Gs
		Changing subject of formula – 2 step	https://youtu.be/-tlQOdmS7pA
		Changing subject of formula – 2 step	https://youtu.be/1CgxNv7EnV0
		Changing subject of formula – 3 step	https://youtu.be/QwsPJ7fAkR8
		Solving for the denominator	https://youtu.be/sT5YexiZxig

Quadratic Graphs		Determining equation from graph	https://youtu.be/ktcvltSbP-k
		Sketching a quadratic function	https://youtu.be/rJkCEpRGyYI
		Identifying features of quadratic	https://youtu.be/5HHBKw7Ai44
		Determining equation from graph	https://youtu.be/IU2gTGxtM-o
		Sketching a quadratic function	https://youtu.be/GuzCVMBSxdQ
		Identifying features of quadratic	https://youtu.be/_8XPJosPUug
		Determining equation from graph	https://youtu.be/4P3qV67eeVc
		Sketching a quadratic function	https://youtu.be/PVLm96ORHyA
		Identifying features of quadratic	https://youtu.be/tVKNf17GGt0

Discriminant		Calculating the discriminant	https://youtu.be/QRO2vOq9MW0
		Solving for equal roots	https://youtu.be/Bg8ZjGnNkCc
		Solving for real or no real roots	https://youtu.be/Ng_kv1vFF3o

Quadratic Formula		Using the quadratic formula	https://youtu.be/us18ZFTGa90
		Using the quadratic formula	https://youtu.be/LK7aISyZHeA
		Using the quadratic formula	https://youtu.be/dBNRVJv1_Os

Functions		Evaluating functions	https://youtu.be/fvCg6MVarSw
		Functions – working backwards	https://youtu.be/z-EKsYKR_C8
		Evaluating functions	https://youtu.be/vQzCag3becg
		Functions – working backwards	https://youtu.be/josUSQUusuw
		Evaluating functions	https://youtu.be/rygXHwBlufI
		Functions – working backwards	https://youtu.be/gNlybHTRVWU

Volume		Volume of a cylinder	https://youtu.be/vKBsLY2hEjM
		Volume of a cone	https://youtu.be/AS7ZEfyc6eM
		Volume of a sphere	https://youtu.be/ZmooVHOcCk
		Volume of a cylinder	https://youtu.be/_g6ZT1xx_h8
		Volume of a cone	https://youtu.be/HdLj2WIXaO4
		Volume of a sphere	https://youtu.be/i1ly9ouTRB8
		Calculating the height/radius of cylinder	https://youtu.be/ntbnP0BhbpI
		Calculating the height/radius of a cone	https://youtu.be/4p-8qsOd1eE
		Calculating the radius of a sphere	https://youtu.be/bR876001iXE

Rounding		Rounding to 1 significant figure	https://youtu.be/i-RL07ZqpFc
		Rounding to 2 significant figures	https://youtu.be/nxpFJjyKdls
		Rounding to 3 significant figures	https://youtu.be/DyMYgaPoEZI

Pythagoras		Converse of Pythagoras	https://youtu.be/q6kD_oh5dLM
		The distance between 2 points	https://youtu.be/0MMaZmHiPO0
		Pythagoras in circles	https://youtu.be/XNi1KiZHdfA

Angles		Angles in polygons	https://youtu.be/e1SE7IOpw44
		Triangles in semi-circles & tangents	https://youtu.be/f9OECe-OKIU
		Right angles and isosceles triangles	https://youtu.be/z_zzRqPFBKQ

Trigonometry: triangle calculations		Area of a triangle	https://youtu.be/FAQBliry4A8
		Area of a triangle	https://youtu.be/gDwp_pQvZvk
		Finding a side/angle when given area	https://youtu.be/WgWEOE11dQw
		Cosine rule – finding a side	https://youtu.be/fp_JPUiO0VI
		Cosine rule – finding a side	https://youtu.be/3OyKIXJyZ5c
		Cosine rule – finding an angle	https://youtu.be/cSiVoXva0yo
		Sine rule – finding a side	https://youtu.be/mfCp8vckCwg
		Sine rule – finding a side	https://youtu.be/UvnJHf-VE9U
		Sine rule – finding an angle	https://youtu.be/Nu8Zv5FpY9E

Comparing data		Semi-interquartile range	https://youtu.be/Iu9nqjK180k
		Standard deviation	https://youtu.be/8Cpli6SqA-l
		Scatter graphs	https://youtu.be/QANXH_kl9po
		Semi-interquartile range	https://youtu.be/IV03YYQyCj0
		Standard deviation	https://youtu.be/kgtqhfllCcs
		Scatter graphs	https://youtu.be/PScYFNFzJkQ
		Semi-interquartile range	https://youtu.be/Fy1LA-Ktd4
		Standard deviation	https://youtu.be/IFUvtCj60Tg
		Scatter graphs	https://youtu.be/YV0dl23f05g