

FRACTIONS
 $\frac{2}{3} \times \frac{5}{6} = \frac{10}{18} = \frac{5}{9}$
 $\frac{2}{3} \div \frac{5}{6} = \frac{2}{3} \times \frac{6}{5} = \frac{12}{15} = \frac{4}{5}$
 +/- Common denominator

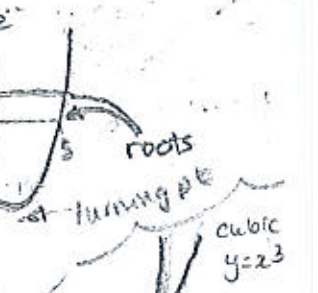
NUMBER
 HCF of 12 and 18 = 6
 LCM of 4 and 6 = 12
 PRIMES: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97, 101, 103, 107, 109, 113, 127, 131, 137, 139, 149, 151, 157, 163, 167, 173, 179, 181, 187, 191, 193, 197, 199, 211, 223, 227, 229, 233, 239, 241, 251, 257, 263, 269, 271, 277, 281, 283, 293, 307, 311, 313, 317, 331, 337, 347, 349, 353, 359, 367, 373, 379, 383, 389, 397, 401, 409, 419, 421, 431, 433, 439, 443, 449, 457, 461, 463, 467, 479, 487, 491, 499, 503, 509, 521, 523, 527, 539, 541, 547, 557, 563, 569, 577, 581, 587, 593, 599, 601, 607, 611, 613, 617, 619, 623, 629, 631, 637, 641, 643, 647, 653, 659, 661, 667, 671, 673, 677, 683, 687, 691, 697, 701, 709, 713, 719, 727, 731, 733, 739, 743, 749, 751, 757, 761, 769, 773, 779, 781, 787, 791, 797, 801, 809, 811, 817, 821, 823, 827, 829, 833, 837, 839, 841, 847, 851, 853, 857, 859, 863, 869, 871, 877, 881, 883, 887, 891, 893, 897, 901, 907, 911, 913, 917, 919, 923, 929, 931, 937, 941, 943, 947, 953, 959, 961, 967, 971, 973, 977, 981, 983, 989, 991, 993, 997, 1000

INDICES
 $a^0 = 1$
 $a^{-1} = \frac{1}{a}$ (reciprocal)
 $a^x \times a^y = a^{x+y}$
 $a^x \div a^y = a^{x-y}$
 $(a^x)^y = a^{xy}$
 $a^x \times b^x = (ab)^x$
 $a^x \times a^y = a^{x+y}$
 $5p^2 \times 7pq = 35p^3q$

EXPAND
 $(2x+1)(3x-4) = 6x^2 - 8x - 4$
 $3x \begin{array}{r} 2x \\ 6x^2 \\ -4x \\ \hline 3x \end{array} = 6x^2 - 8x - 4$

FACTORISING
 $6x^2 - 2xy = 2xy(3y-1)$
 Brackets back in

QUADRATICS
 $x^2 + 3x = x(x+3)$
 $x^2 - 49 = (x-7)(x+7)$
 difference of 2 squares



ESTIMATE
 Make sum easy round to 1sf
 $2 \frac{3}{8} + 1 \frac{5}{6} \approx 2 \frac{3}{8} + 1 \frac{5}{6} = 3 \frac{11}{8} = 3 \frac{14}{8} = 3 \frac{7}{4} = 3 \frac{1.75}{1} = 4.75$

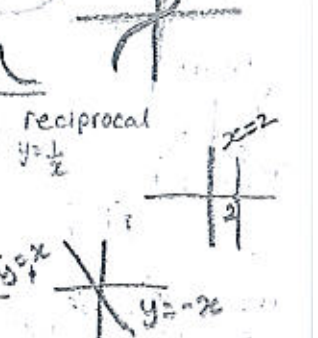
PERCENTAGES
 $24\% = \frac{24}{100} = \frac{6}{25}$ or 0.24
 REVERSE %
 In 15% sale coat is £32, find original price.
 $85\% = 82$
 $1\% = 32 \div 85 = 0.37$
 $100\% = 37.65$

INEQUALITIES
 $-3 \leq x < 2$
 $3x - 2 \leq 9$
 $3x \leq 11$
 $x \leq \frac{11}{3}$

SIMULTANEOUS EQUATION
 $3x + 2y = -2$
 $5x - 3y = 22$
 $10x - 6y = 44$
 $9x + 6y = -6$
 $19x = 38$
 $x = 2$

SEQUENCES
 Arithmetic
 20th term
 $4n - 3 = 77$
 $4n = 80$
 $n = 20$

FUNCTIONS
 $g(x) = 3x$
 $f(x) = 2x^2$
 $g(1) = 3 \times 1 = 3$
 $f(6) = 2 \times 6^2 = 2 \times 36 = 72$



ERROR INTERVAL
 $9.2 \leq x < 9.25$
 $9.15 \leq x < 9.25$

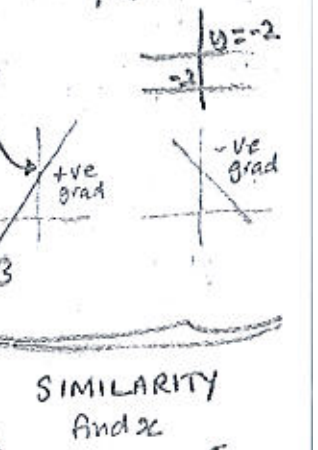
COMPOUND INTEREST
 Invest £600 at 8% for 4 yrs
 $600 \times 1.08^4 =$
 $600 \times 1.3605 = 816.30$

NEGATIVES
 $++ = +$
 $+- = -$
 $-+ = -$
 $-- = +$

FUNCTIONS
 $5x + 7 = 3x - 2$
 $-3x + 7 = -2$
 $-3x = -9$
 $x = 3$

FUNCTIONS
 $4n - 3 = 36$
 $4n = 39$
 $n = 9.75$
 So NO

LINEAR
 $y = mx + c$
 Gradient = m
 Intercept = c
 grad = 3



CONVERSIONS
 $\text{£}1 = 100 \text{p}$
 $\text{£}1.50 = 150 \text{p}$
 $\text{£}1.64 = 164 \text{p}$
 $\text{£}1.10 = 110 \text{p}$
 $\text{£}1.04 = 104 \text{p}$
 $\text{£}1.52 = 152 \text{p}$
 $\text{£}1.64 = 164 \text{p}$
 $\text{£}1.72 = 172 \text{p}$

RATIO AND PROPORTION
 Sharing in ratio
 $\text{£}60$ in 2:3
 $\text{£}60 \div 5 = 12$
 $24:36$

MEAN FROM FREQUENCY TABLE

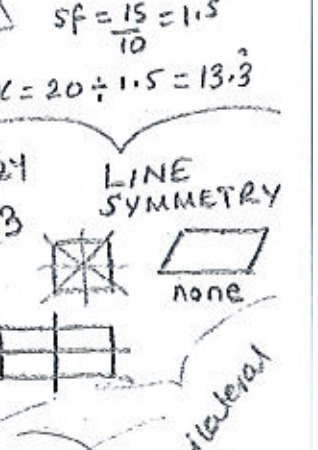
x	f	xf
5	2	10
15	3	45
25	1	25
6	80	

 Mean = $\frac{80}{6} = 13.3$

SHAPENAMES
 STANDARD FORM
 $3.2 \times 10^5 = 320000$
 $7.1 \times 10^{-3} = 0.0071$

VECTORS
 $3 \begin{pmatrix} 2 \\ -2 \end{pmatrix} = \begin{pmatrix} 6 \\ -6 \end{pmatrix}$
 $\begin{pmatrix} 3 \\ -2 \end{pmatrix} + \begin{pmatrix} -1 \\ -3 \end{pmatrix} = \begin{pmatrix} 2 \\ -5 \end{pmatrix}$

SHAPE
 Area of circle: $A = \pi r^2$
 Circumference: $C = 2\pi r$
 Volume of cylinder: $V = \pi r^2 h$



BAR CHARTS
 Scale labels
 Key
 Box plot

STEM + LEAF

1	13
2	257
3	12
4	8

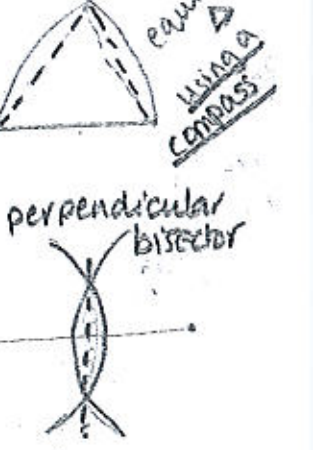
 Numerical order

HANDLING DATA
 mode = 15
 median = 3rd
 So 15

PROBABILITY TREE
 R B
 R B
 B B
 times along branches

ENLARGEMENT
 'change size'
 need scale factor and centre

ROTATIONAL SYMMETRY
 order 3



PIE CHART
 Make angles add to 360

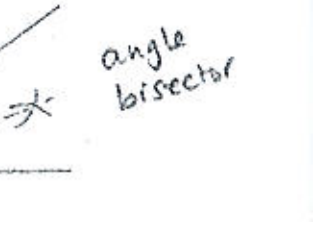
STRATIFIED SAMPLING
 KS3 = 650 KS4 = 250
 Sample 50 students
 How many from KS4?
 $\frac{250}{900} \times 50 =$

PROBABILITY TREE
 R B
 R B
 B B

RIGHT ANGLE
 Pythagoras
 $c^2 = a^2 + b^2$
 + long side - short side

AREA + VOLUME
 TRIANGLE: $\frac{1}{2}bh$
 TRAPEZIUM: $\frac{(a+b)h}{2}$

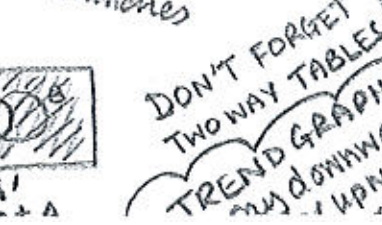
CUBOID
 $L \times W \times H$
PRISM
 $L \times W \times H \div 2$



MRS LANTON'S QUICK FOUNDATION REVISION!

DON'T FORGET
 EXACT TRIG VALUES
 SHAPENAMES
 STANDARD FORM
 RECIPES
 ORDERING DECIMALS
 PLANS + ELEVATIONS
 FREQUENCY TREES
 ROUNDING
 UNITS

PROBABILITY
 ADDS TO MAKE 1



BEARINGS
 from N clockwise 3 figures

CONGRUENT
 EXACTLY SAME SHAPE + SIZE
 TO PROVE - do one of SSS SAS ASA RHS

RIGHT ANGLE
 Pythagoras
 $c^2 = a^2 + b^2$
 + long side - short side

ENLARGEMENT
 'change size'
 need scale factor and centre

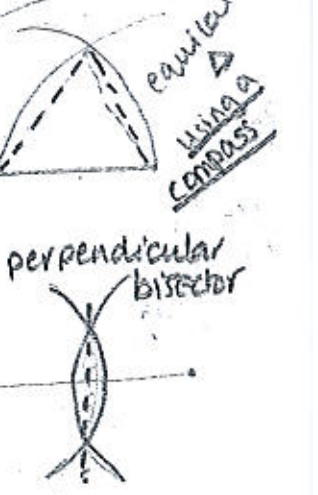
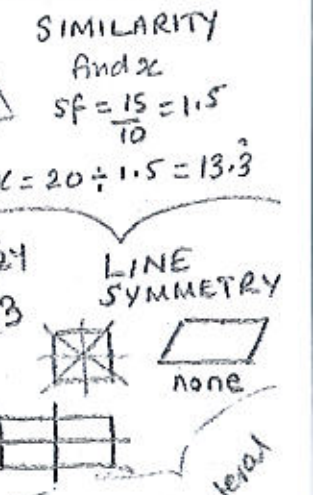
TESSELLATIONS
 Together no gaps

AREA + VOLUME
 TRIANGLE: $\frac{1}{2}bh$
 TRAPEZIUM: $\frac{(a+b)h}{2}$

ROTATIONAL SYMMETRY
 order 3

REFLECTION
 'flip'
 need equation of mirror line

CUBOID
 $L \times W \times H$
PRISM
 $L \times W \times H \div 2$



TO CALCULATE SA, draw a net first