

AUTOGRAPH MASTERCLASS WORKSHOP

K.S. 3-4 Topics: www.tsm-resources.com/master.html

1. NUMBER

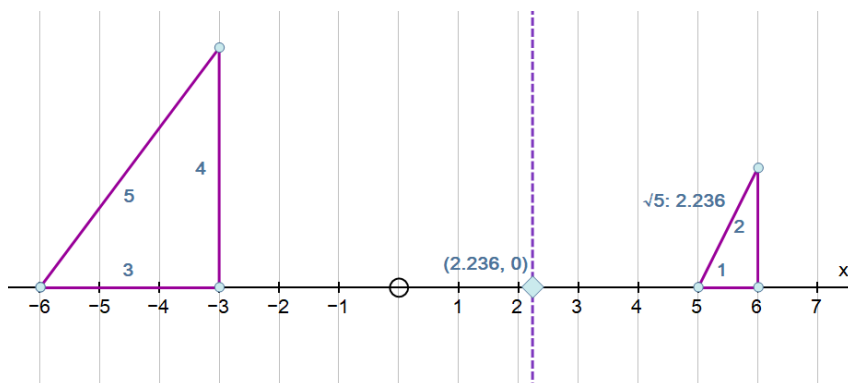
NUMBER LINE

$(1, 0)$, $(1/3, 0)$ and ZOOM

$(\sqrt{2}, 0)$, $(\sqrt{5}, 0)$

3 d.p. and 4 sig. fig.

1-2- $\sqrt{5}$ Pythagoras Triangle



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2. GEOMETRY and MEASURES

Parallel and perpendicular lines:

PARALLEL TEST

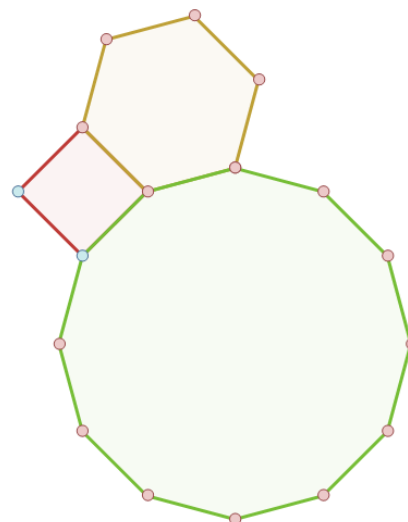
Shortest distance



REGULAR POLYGONS

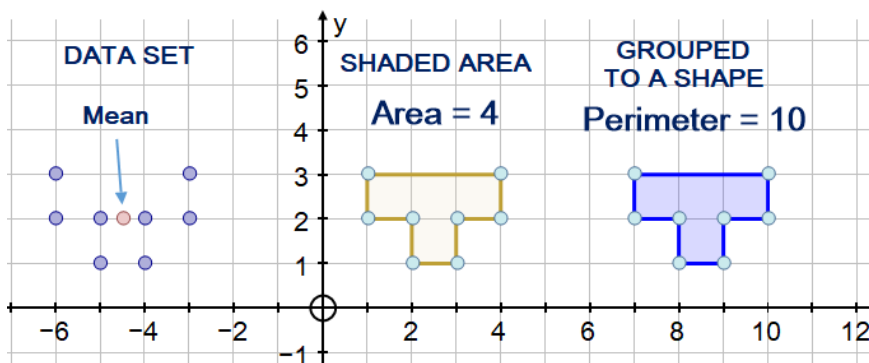
Triangle, Square, rectangle, parallelogram

Trapezium, kite, rhombus



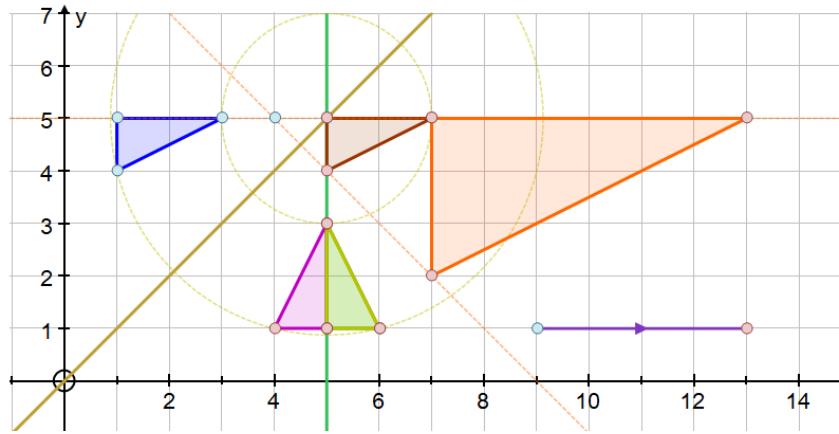
WHAT TO DO WITH A

COLLECTION OF POINTS:



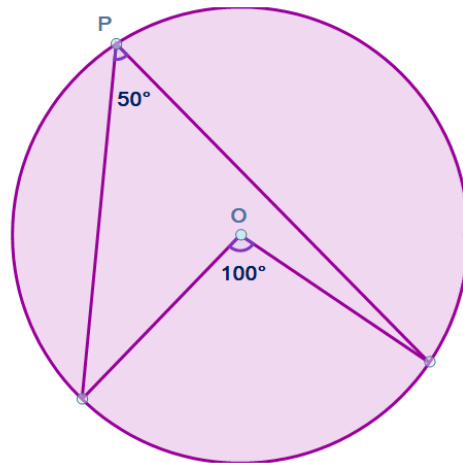
TRANSFORMATIONS:

rotation, reflection,
translation, enlargement
Fractional and
negative scale factors
Invariance



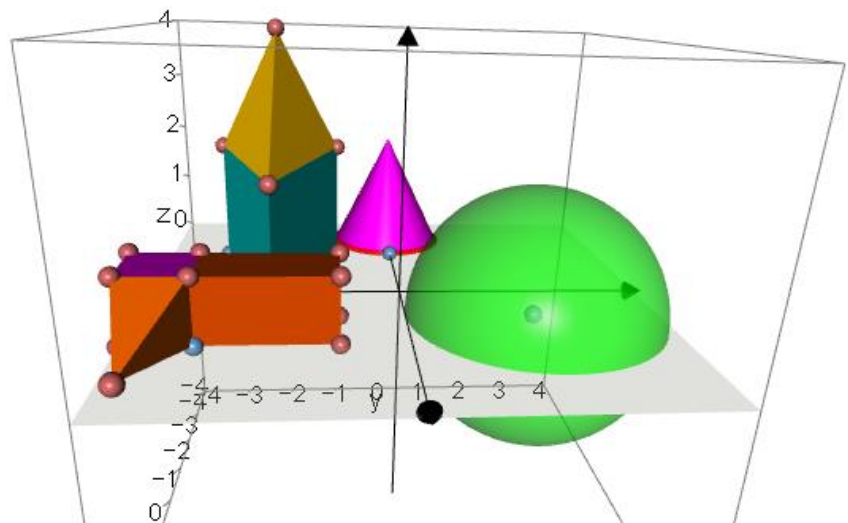
THE CIRCLE:

properties and theorems



3D SHAPES

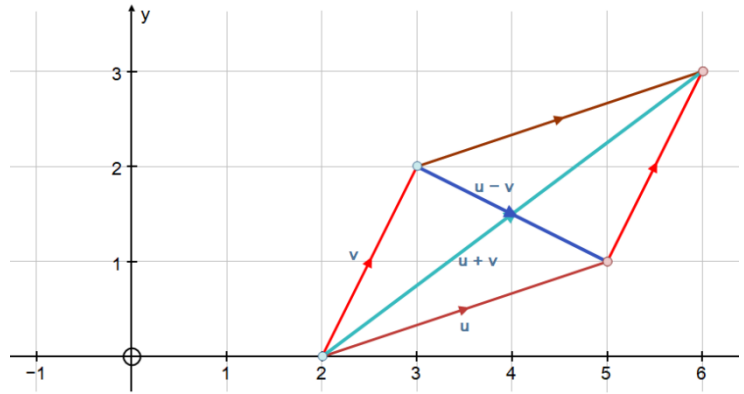
Cube, cuboid,
prisms, cylinders,
pyramids, cones,
spheres



MAPS AND BEARINGS



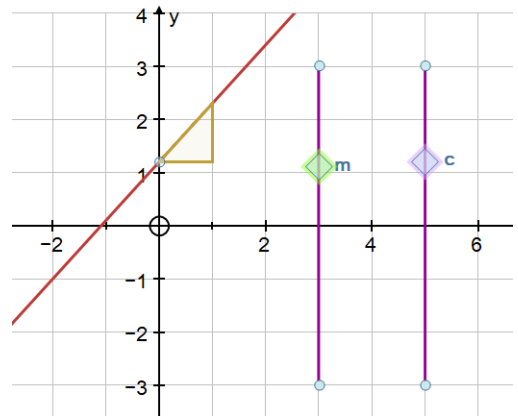
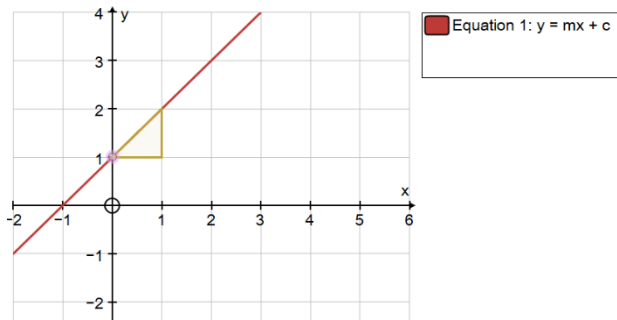
VECTORS:
addition and subtraction



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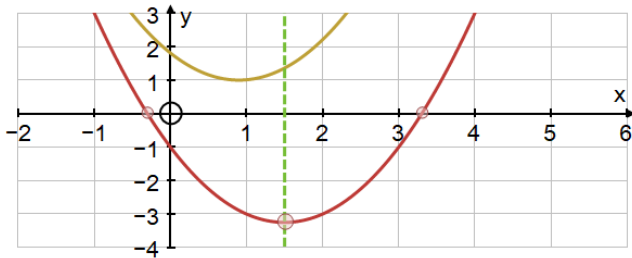
3. ALGEBRA and GRAPHING

$y = mx + c$: with Constant controller - - - and sliders:



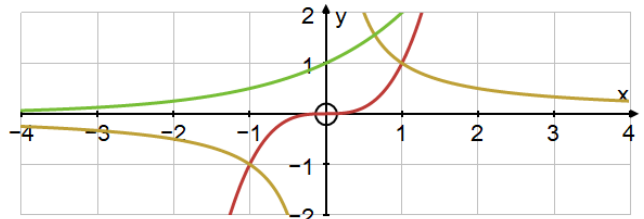
Quadratics: intercepts, turning points

COMPLETING THE SQUARE;



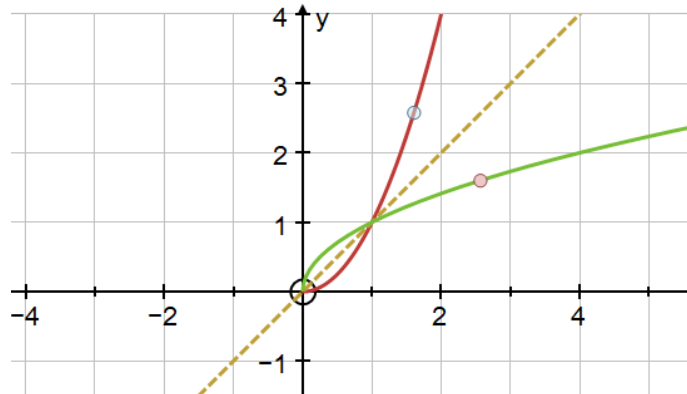
- Equation 1: $y = x^2 - 3x - 1$
- Equation 2: $y = (x - a)^2 + b$

CUBICS and $y = 1/x$; $Y = k^x$

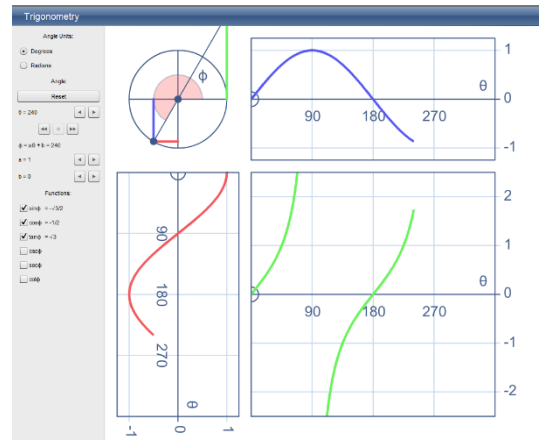
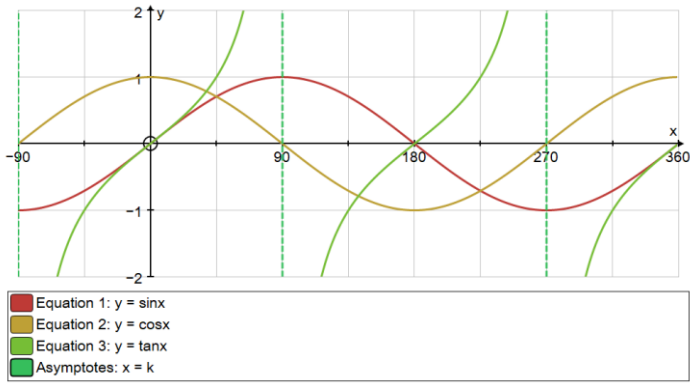


- Equation 1: $y = x^3$
- Equation 2: $y = 1/x$
- Equation 3: $y = 2^x$

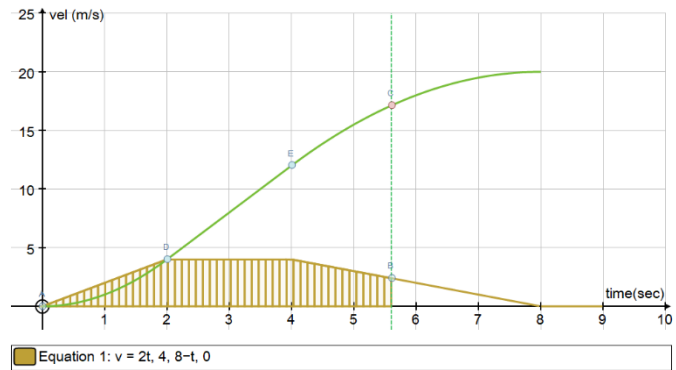
GRAPHS OF INVERSE FUNCTIONS



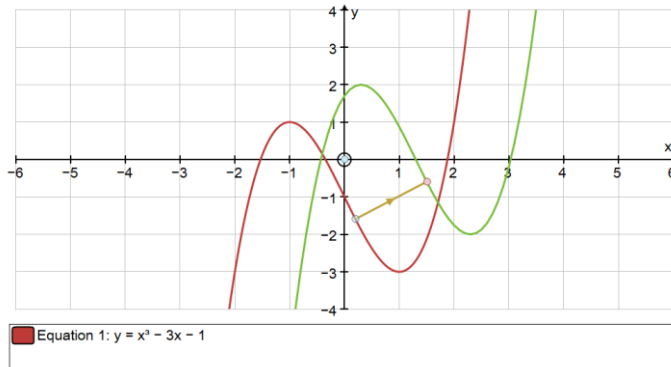
TRIG GRAPHS sinx, cosx, tanx



DISTANCE – SPEED – ACCELERATION

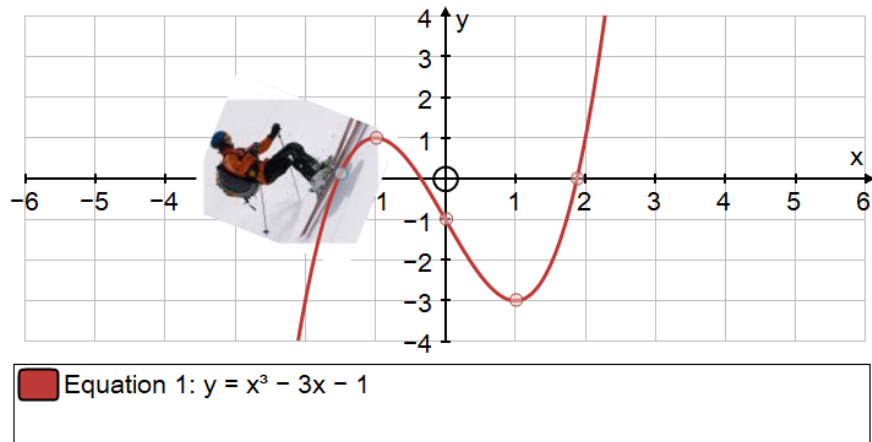


TRANSLATIONS AND REFLECTIONS OF GRAPHS

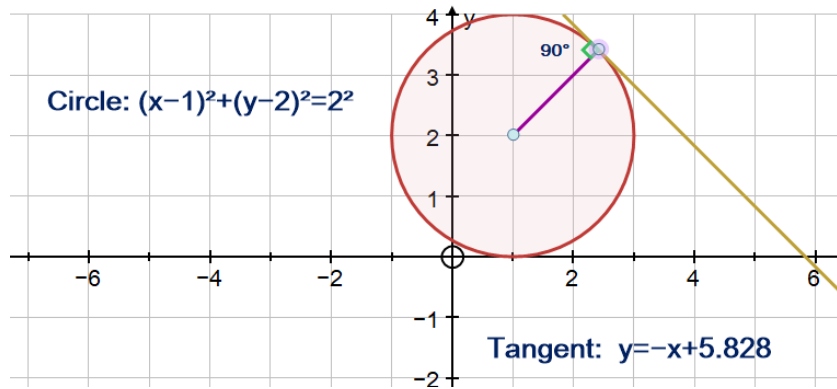


ESTIMATE OF GRADIENT

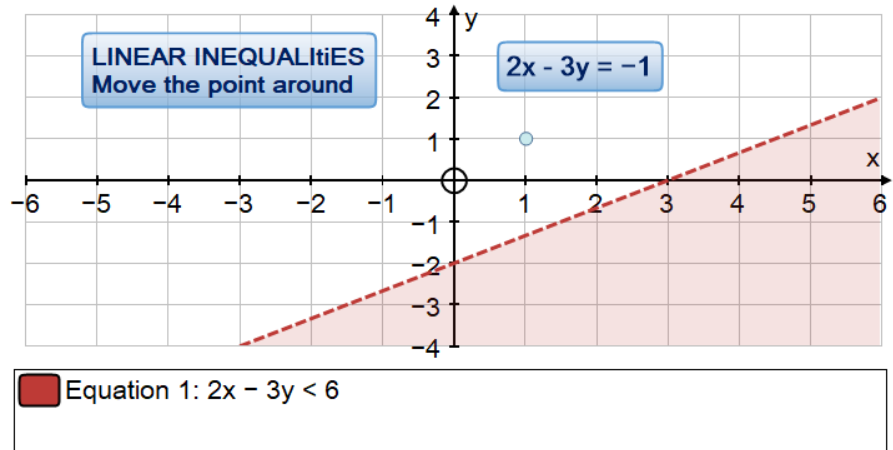
AND AREA



EQUATION OF CIRCLE and tangent

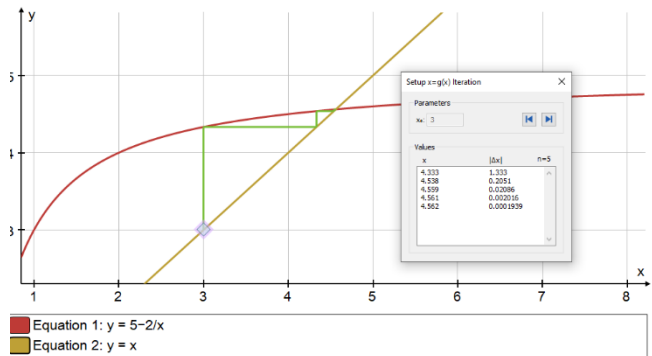


SOLVING LINEAR INEQUALITIES

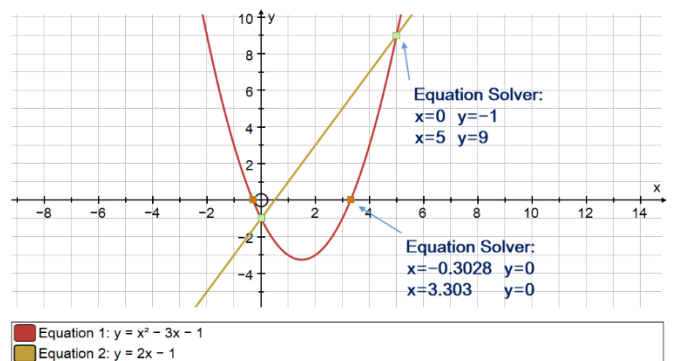
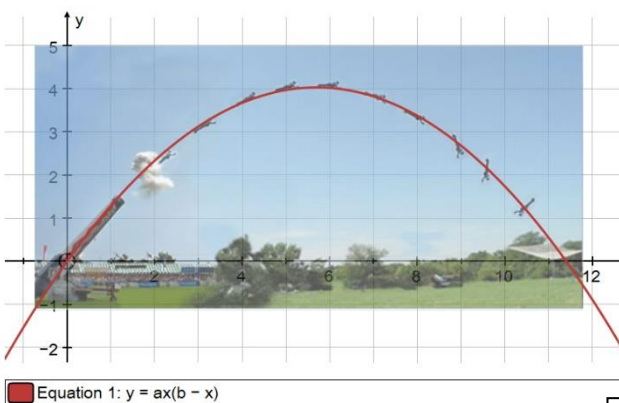


SOLVING BY ITERATION

Solving linear/linear and linear/quadratic



SOLVING QUADRATICS:



4. STATISTICS

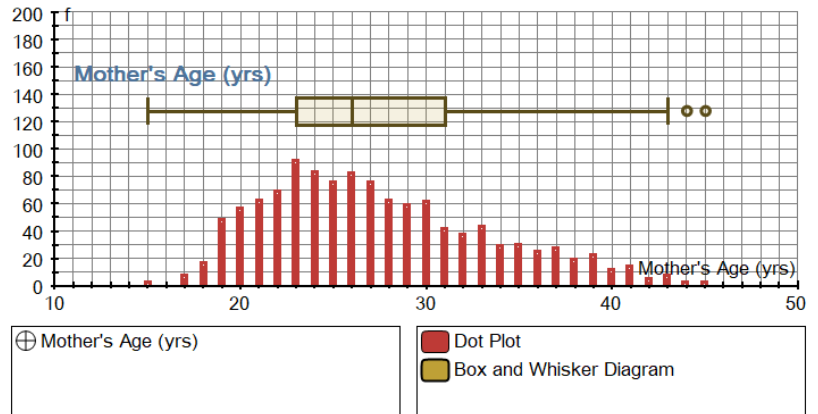
SCATTER GRAPHS

– line of best fit

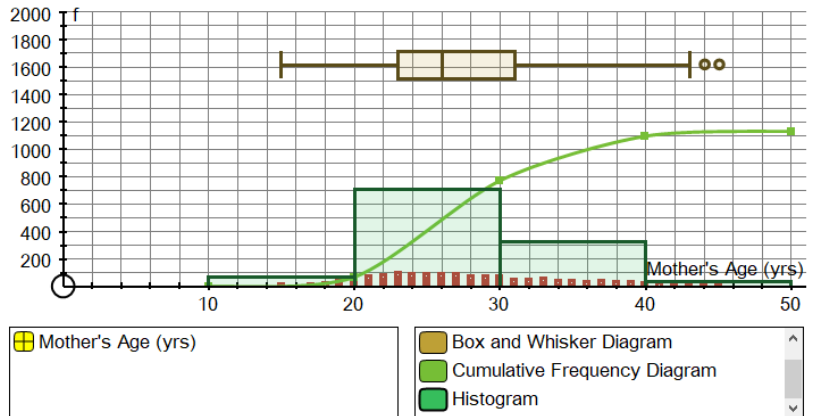


Grouped data
discrete/continuous data

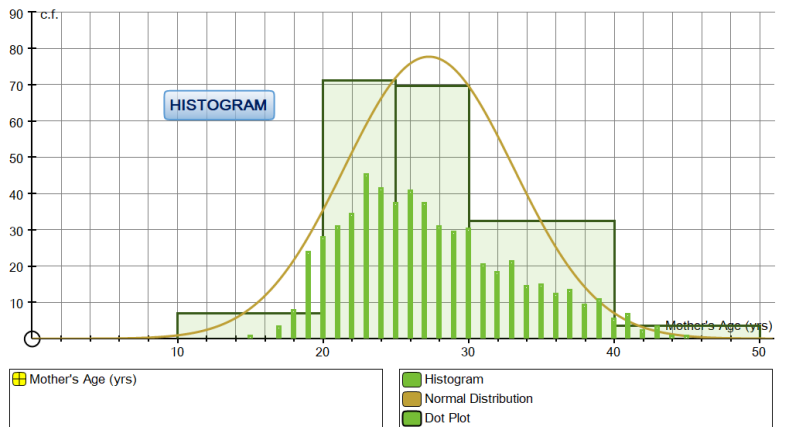
BOX PLOT



CUMULATIVE FREQUENCY DIAG



HISTOGRAM



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