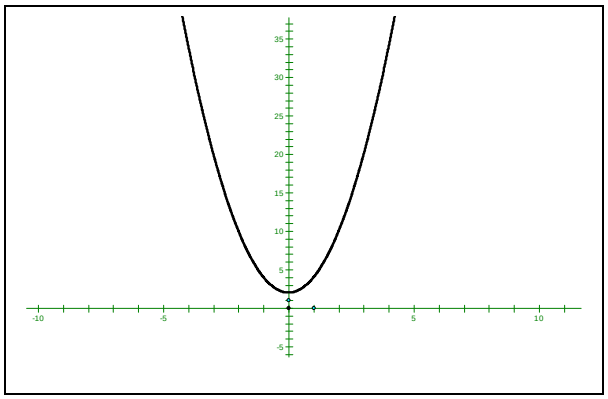
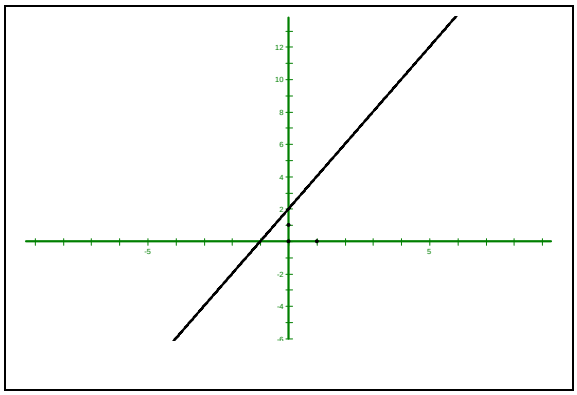
NON-LINEAR RELATION TO LINEAR FORM

Given that x and y are related by equation $\mathbf{y = 2x^2 + 2}$

x	-2	-1	0	1	2
$\mathbf{x^2}$	4	1	0	1	4
y	10	4	2	4	10



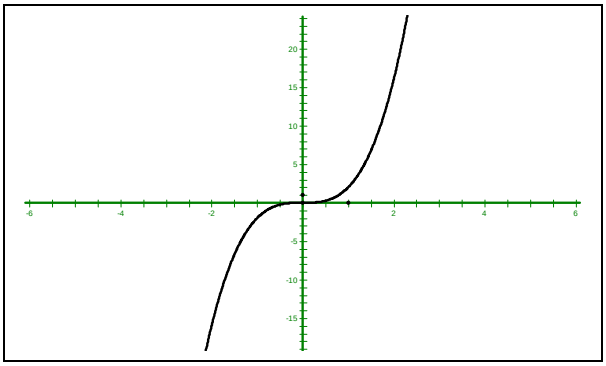
Graph y against x



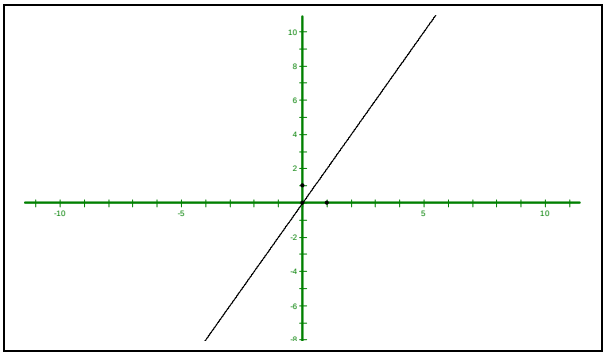
Graph y against x^2

Given that x and y are related by equation $\mathbf{y = 2x^3}$

x	-2	-1	0	1	2
$\mathbf{x^3}$	-8	-1	0	1	8
y	-16	-2	0	2	16



Graph y against x



Graph y against x^3

Conclusion

Non-Linear Function	***by comparing with Y = mX + c***	***Explanation how a straight-line grapf can be drawn***
$\mathbf{y = ax^2 + b}$		
$\mathbf{y = ax^3 + b}$		
$\mathbf{y^2 = ax + b}$		
$\frac{1}{y} = ax^2 + b$		
$y = \frac{a}{x} + b$		
$y = \frac{a}{x^2} + b$		
$\frac{1}{y} + \frac{1}{x} = \frac{1}{k}$		
$\frac{a}{y} = \frac{b}{x} + 1$		

CONVERT NON-LINEAR FUNCTIONS TO LINEAR FORM $Y = mX + c$

Non-Linear Function	*by taking log to both sides*	*Explanation how a straight-line grapf can be drawn*
$y = ax^x$		
$y = ca^{kx}$		
$py = q^x$		
$yx^n = c$		
$y = a(x+1)^n$		
$y = pk^{x^2}$		
$y = pk^x$		

CONVERT NON-LINEAR FUNCTIONS TO LINEAR FORM Y = mX + c

Non-Linear Function		***Explanation how a straight-line grapf can be drawn***
$y = px + \frac{r}{px}$		
$y = a\sqrt{x} + \frac{b}{\sqrt{x}}$		
$\frac{y}{x} = \frac{a}{x} + bx$		
$\frac{y}{x} = \frac{p}{x} + qx$		

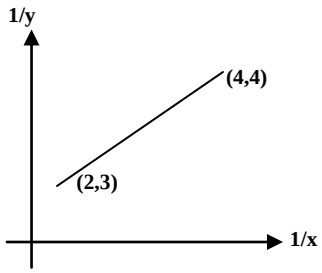
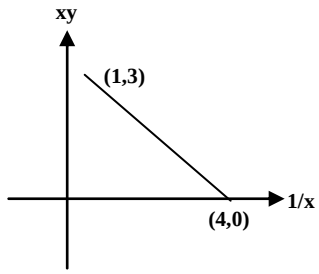
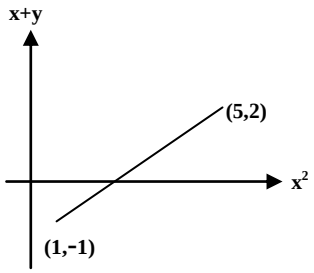
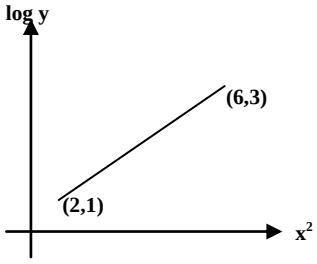
CONVERT NON-LINEAR FUNCTIONS TO LINEAR FORM Y = mX + c

Non-Linear Function	*by taking log to both sides*	*Explanation how a straight-line grapf can be drawn*
$y = ab^x$		
$y = ca^{kx}$		
$py = q^x$		
$yx^n = c$		
$y = a(x+1)^n$		
$y = pk^{x^2}$		
$y = pk^x$		

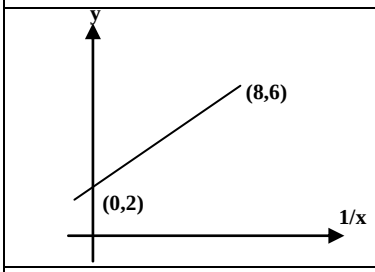
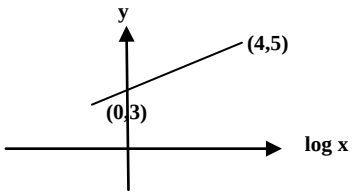
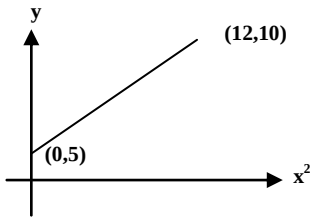
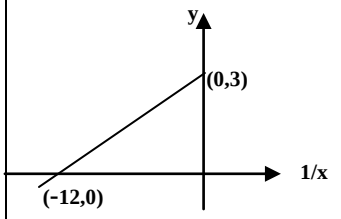
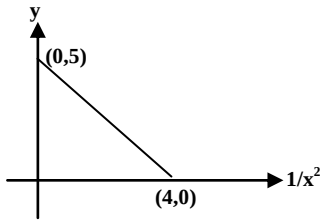
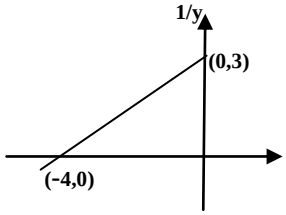
CONVERT NON-LINEAR FUNCTIONS TO LINEAR FORM $Y = mX + c$

Non-Linear Function	*by taking a common factor*	*Explanation how a straight-line grapf can be drawn*
$y = ax^2 + bx$		
$y = ax^3 + bx^2$		
$xy + ax = b$		
$x^2y + a = bx^2$		
$x + py = qxy$		

SKILL 2

A line of best fit	*The equation of relation*	*Express y in terms of x*
		
		
		
		

SKILL 1

A line of best fit	*The equation of relation*	*Express y in terms of x*
		
		
		
		
		
		

Sekolah Menengah Teknik Tuanku Ja'afar
Ampangan, Seremban, N.Sembilan

ADDITIONAL MATHEMATICS

LINEAR LAW

Name:
Class:

Prepared by Pn.Azizah Mohamad