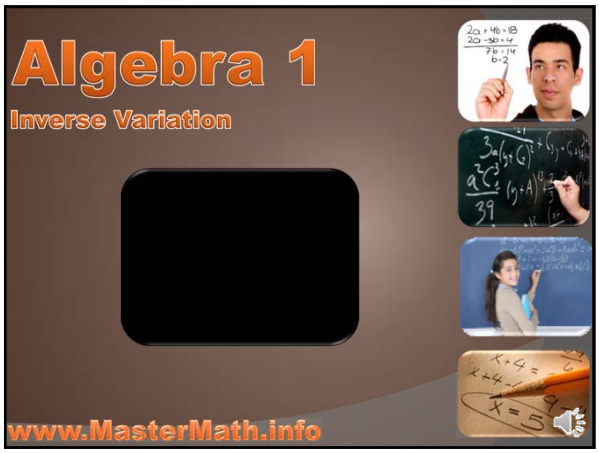
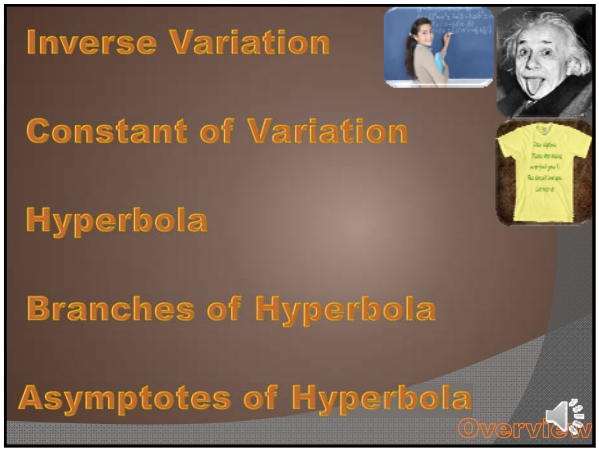
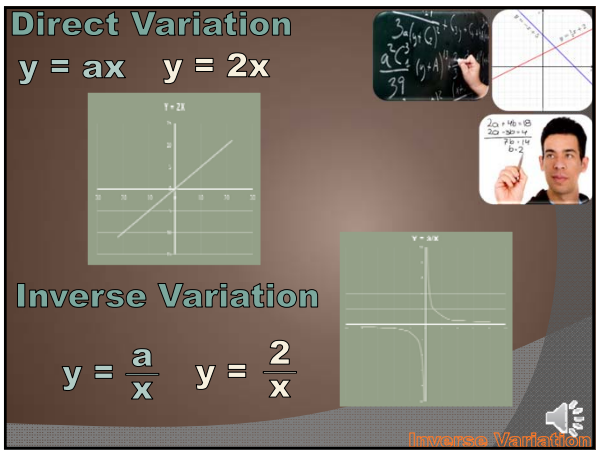
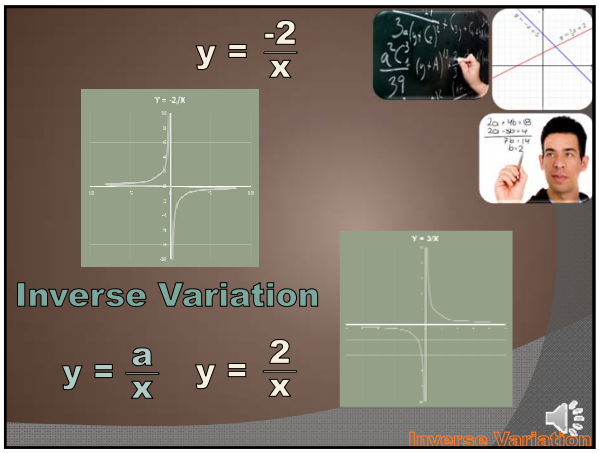
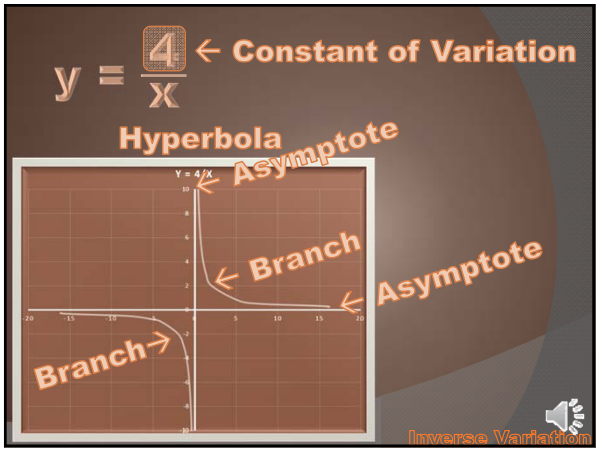
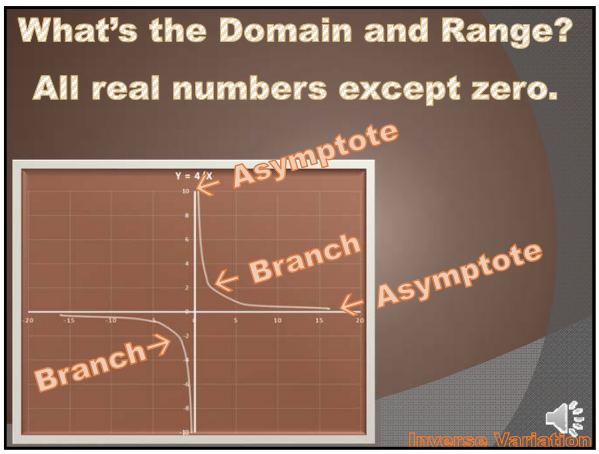

Algebra 1
Inverse Variation
www.MasterMath.info


Inverse Variation
Constant of Variation
Hyperbola
Branches of Hyperbola
Asymptotes of Hyperbola
Overview

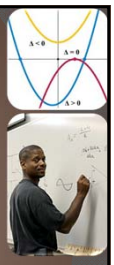

Direct Variation
y = ax y = 2x
Inverse Variation
y = a/x y = 2/x
Inverse Variation


$y = \frac{-2}{x}$
Inverse Variation
$y = \frac{a}{x}$ $y = \frac{2}{x}$
Inverse Variation


$y = \frac{4}{x}$ ← Constant of Variation
Hyperbola
Asymptote
Branch
Asymptote
Branch
Inverse Variation


What's the Domain and Range?
All real numbers except zero.
Asymptote
Branch
Asymptote
Branch
Inverse Variation

Graph xy = 3
If there are any Asymptotes, identify them.

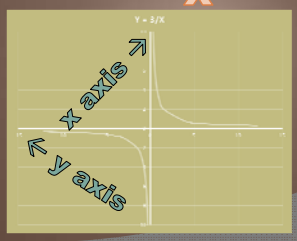


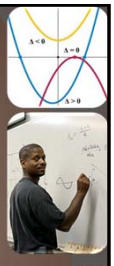
You Try It

Graph xy = 3
If there are any Asymptotes, identify them.

$$y = \frac{3}{x}$$

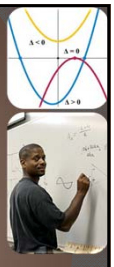
y	x
-0.6	-5
-0.75	-4
-1	-3
-1.5	-2
-3	-1
-4	-0.75
-6	-0.5
-12	-0.25
undefined	0
12	0.25
6	0.5
4	0.75
1.5	2
1	3
0.75	4
0.6	5





You Try It

x and y vary inversely. When x equals 7, y = -½. Write an equation that describes this relationship



You Try It

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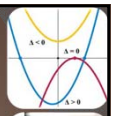

$y = \frac{a}{x}$ $\quad -\frac{1}{2} = \frac{a}{7}$

$y = \frac{-3\frac{1}{2}}{x}$ $\quad -\frac{1}{2}(7) = a$

$-3\frac{1}{2} = a$

You Try It

The number of hours, h, it takes for a block of ice to melt varies inversely as the temperature, t. If it takes 2 hours for a square inch of ice to melt at 65° find the constant of variation. You Try It

$y = \frac{a}{x}$ $\quad 2 = \frac{a}{65}$

$h = \frac{a}{t}$ $\quad 2 * 65 = a$

$130 = a$

The number of hours, h, it takes for a block of ice to melt varies inversely as the temperature, t. If it takes 2 hours for a square inch of ice to melt at 65° find the constant of variation. You Try It