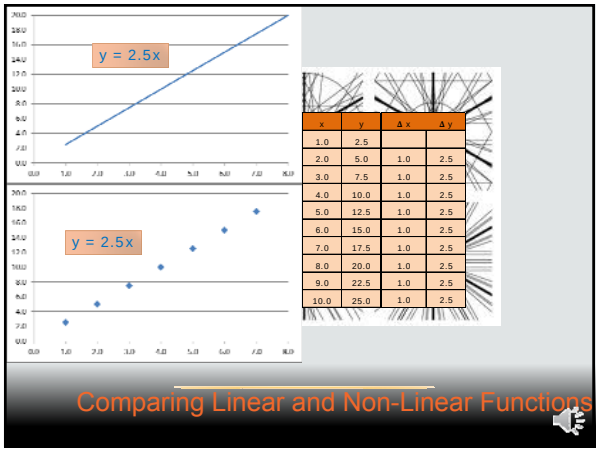
MasterMath

ALGEBRA

Comparing Linear and Non-Linear Functions



x	y	Δ x	Δ y
1.0	2.5		
2.0	5.0	1.0	2.5
3.0	7.5	1.0	2.5
4.0	10.0	1.0	2.5
5.0	12.5	1.0	2.5
6.0	15.0	1.0	2.5
7.0	17.5	1.0	2.5
8.0	20.0	1.0	2.5
9.0	22.5	1.0	2.5
10.0	25.0	1.0	2.5

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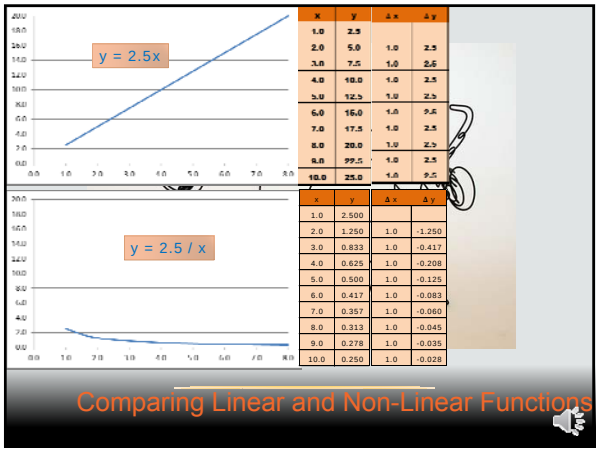

x	y	Δ x	Δ y
1.0	2.500		
2.0	1.250	1.0	-1.250
3.0	0.833	1.0	-0.417
4.0	0.625	1.0	-0.208
5.0	0.500	1.0	-0.125
6.0	0.417	1.0	-0.083
7.0	0.357	1.0	-0.060
8.0	0.313	1.0	-0.045
9.0	0.278	1.0	-0.035
10.0	0.250	1.0	-0.028

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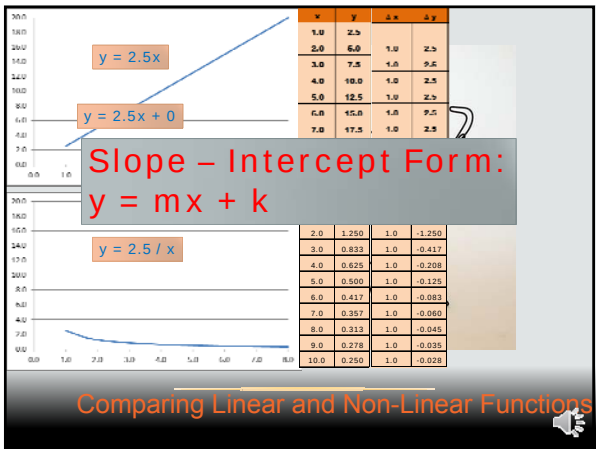
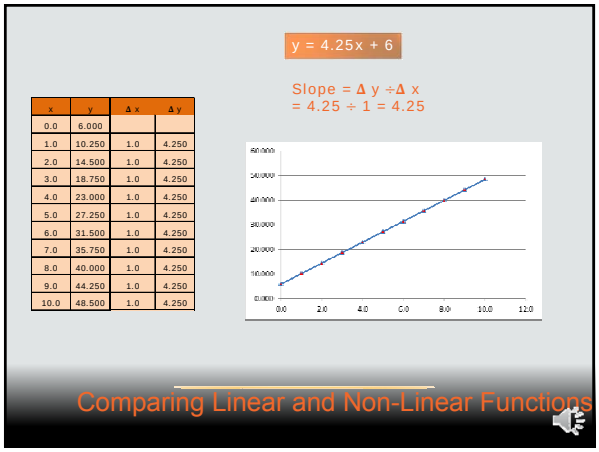
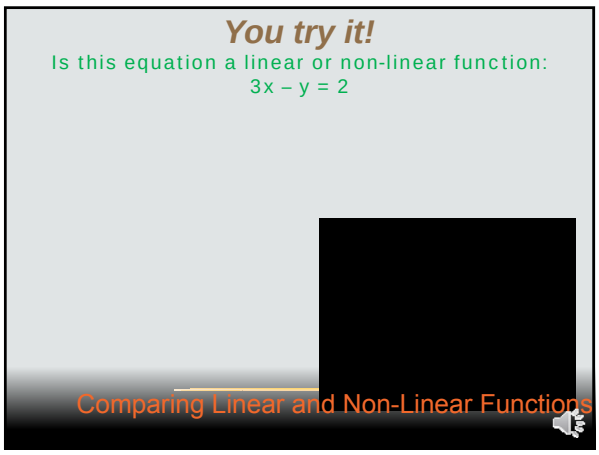

y = 2.5x
y = 2.5x + 0
Slope – Intercept Form:
y = mx + k
y = 2.5 / x
Comparing Linear and Non-Linear Functions


y = 4.25x + 6
Slope = Δ y ÷Δ x
= 4.25 ÷ 1 = 4.25
Comparing Linear and Non-Linear Functions


You try it!
Is this equation a linear or non-linear function:
3x – y = 2
Comparing Linear and Non-Linear Functions

You try it!

Is this equation a linear or non-linear function:

$3x - y = 2$

$3x - y + y - 2 = 2 - 2 + y$

$3x - 2 = y$

$y = 3x - 2$

Slope – Intercept Form:
$y = mx + k$

Comparing Linear and Non-Linear Functions

You try it!
Is this function linear:

x	y
12	144
15	225
22	484
23	529
28	784

Comparing Linear and Non-Linear Functions

You try it!
Is this function linear:

x	y	Δ x	Δ y	Slope
12	144			
15	225	3.0	81.000	27.0
22	484	7.0	259.000	37.0
23	529	1.0	45.000	45.0
28	784	5.0	255.000	51.0

Comparing Linear and Non-Linear Functions

You try it!

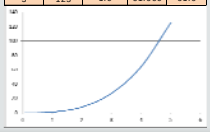
The formula for the volume of a cube ("v") is $v = x^3$.
Is this a linear function?

Comparing Linear and Non-Linear Functions

You try it!

The formula for the volume of a cube ("v") is $v = x^3$.
Is this a linear function?

x	y	Δ x	Δ y	Slope
0	0			
1	1	1.0	1.000	1.0
2	8	1.0	7.000	7.0
3	27	1.0	19.000	19.0
4	64	1.0	37.000	37.0
5	125	1.0	61.000	61.0



$y = mx + k$

Comparing Linear and Non-Linear Functions

You try it!

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Comparing Linear and Non-Linear Functions
from the Worksheets Page, and test your skill. Then see how much you understand by taking the Subject Quiz.

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