

Name:

Period:



DTMD: Four Questions - Note Taking Guide

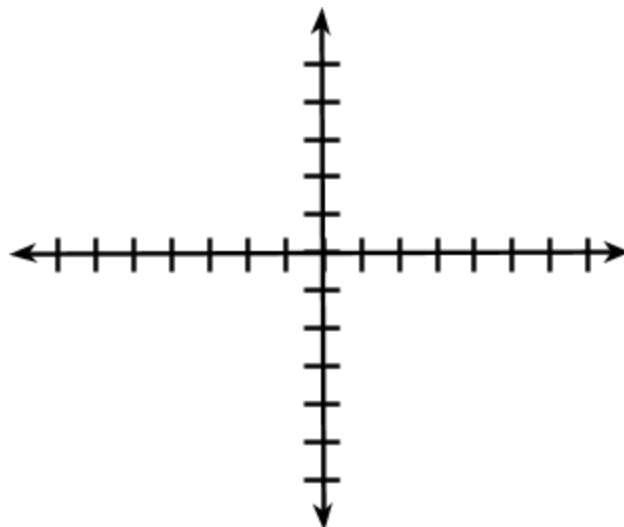
Write in words a complete and thorough explanation of what process or procedures one would go through to arrive at a GRAPHED SHAPE for the following problems...

$$y = 2x + 4$$

$$y = 2(x - 4) + 12$$

Graph the function $y = 2x + 4$ on the axis plane using the table below:

x	y
-1	
0	
1	



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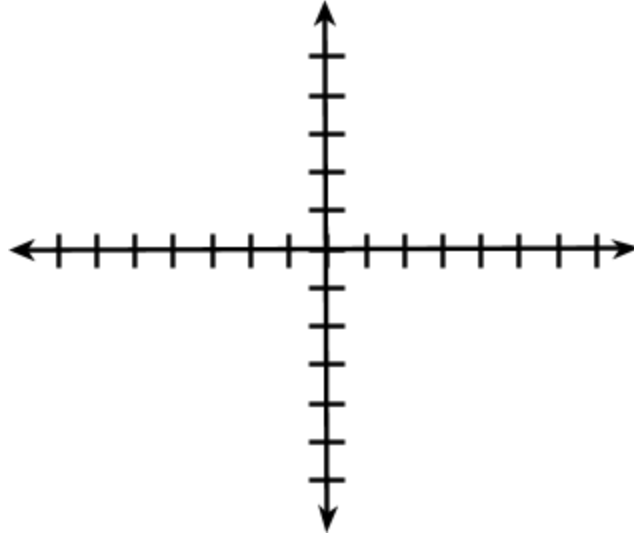
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Graph the function $y = 2(x - 4) + 12$ on the axis plane using the table below:

x	y
-1	
0	
1	



Given the functional form: $y = a(x - h)^n + k$

What might changing “**a**” do?

What might changing “**n**” do?

What might changing “**h**” do?

What might changing “**k**” do?

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Create a Reference Key for yourself...

Four Questions:

1) Is the function even or odd?

implication:

2) Is the function positive or negative?

implication:

3) How many curves (max)?

implication:

4) Where is $(h, k) = (?, ?)$

implication:

Where do I look for the ANSWERS...

$$y = a(x - h)^n + k$$

○
○○
○*
○

Vocabulary Development:

What Do You Notice (What Pattern)?

DOMAIN: "x" Input
 RANGE: "y" Output

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WHEYA

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$$y_1 = 2(x - 3)^4 + 5$$

$$q(x) = -(x + 4)^3 - 2$$

$$y_2 = (x + 2)^5 + 3$$

$$m(x) = -(x - 1)^2 - 4$$

$$y_3 = (x - 5)^2 - 3$$

$$p(x) = -(x + 4)^1 + 2$$

$$f(x) = 3(x - 0)^4 + 5$$

$$y_4 = 3x^3 - 2$$

$$y(x) = 2(x - 3)^3 + 0$$

$$y_5 = -(x + 4)^2$$

$$z(x) = (x - 0)^1 + 2$$

$$y_6 = -(x + 2)^1 - 0$$

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Reflect and Extend:

Are these equivalent expressions? Explain your answer below:

$$y - k = a(x - h)^n \quad \text{vs.} \quad y = a(x - h)^n + k$$

How are the two formula similar?

$$y - k = a(x - h)^n \quad \text{vs.} \quad y - y_1 = m(x - x_1)^n$$

How are they different?

Could these be equivalent expressions? Explain your answer below:

$$y = mx^n + b \quad \text{vs.} \quad y - y_1 = m(x - x_1)^n$$

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Write the following Linear forms under their respective heading:

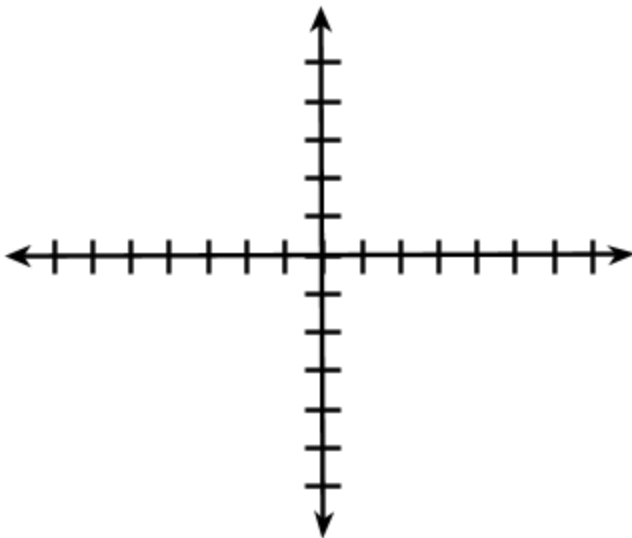
Slope Intercept Form:

Point Slope Form:

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How might the “FOUR QUESTIONS” help you graph LINEAR functions?

Graph the following by converting from its present form to “slope-intercept” form... convert first, then use your four questions to check your accuracy:



$y = \frac{1}{3}(x - 4)^1 + 2$ convert below:

$y =$ _____

Now Graph...

Now use Four Questions to check:

- 1.
- 2.
- 3.
- 4.