

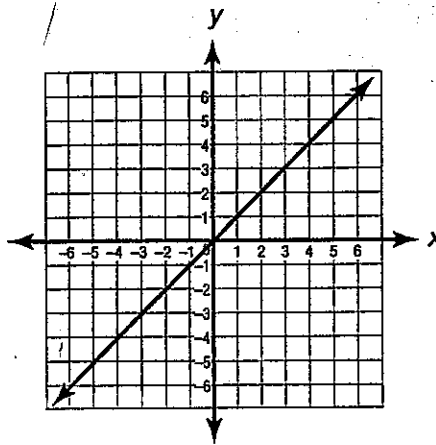
Name _____
Mrs. Roubos

Date _____
8R Period _____

Linear vs. Non-linear Graphs

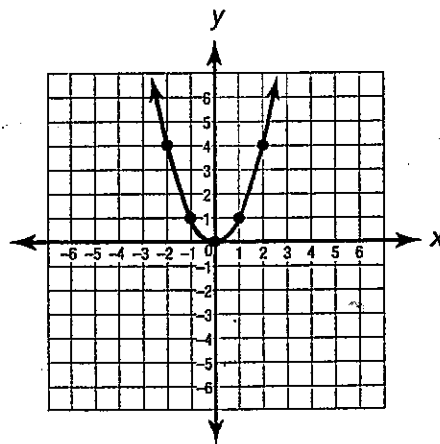
I. An equation is linear if its graph is a straight line.

1st power only!
↓
*Equation: $y = mx + b$
ex: $y = 3x + 2$



II. An equation is non-linear if its graph is not a straight line

2nd power or more or negative numbers
↓
*Equation $y = ax^2 + bx + c$
ex: $y = 3x^2 + 7x + 8$

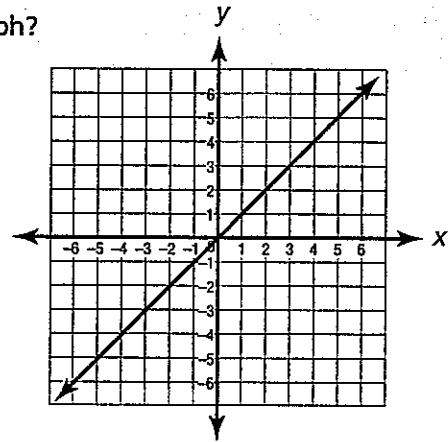


Name: _____

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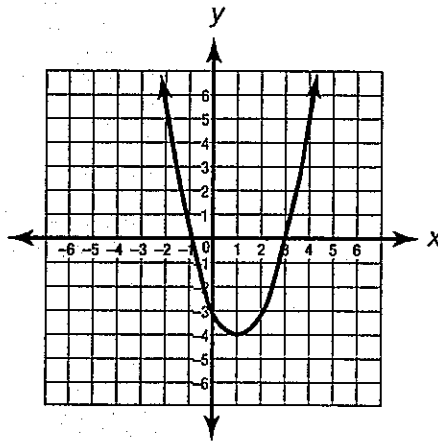
① How can you describe the equation that has this graph?

- F It is linear.
- G It is nonlinear.
- H It is both linear and nonlinear.
- J It is neither linear nor nonlinear.

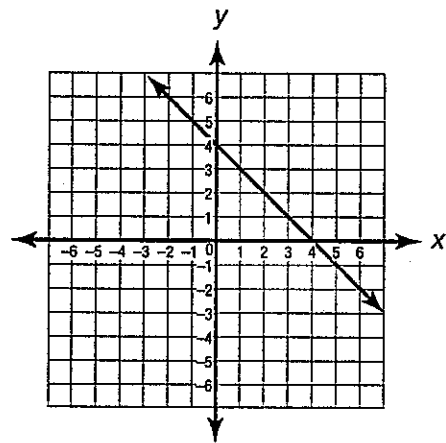


② Which is the graph of a nonlinear equation?

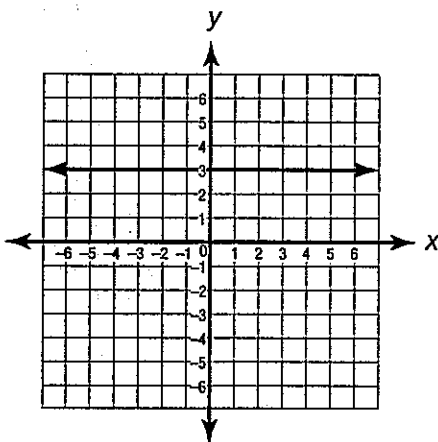
A



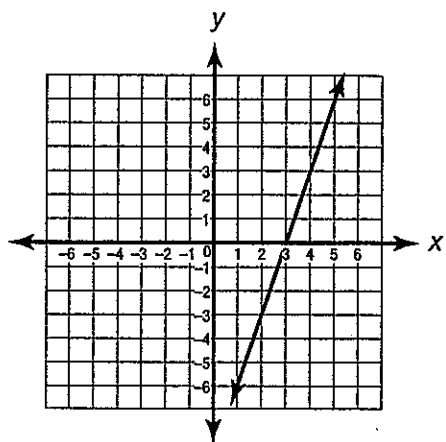
C



B

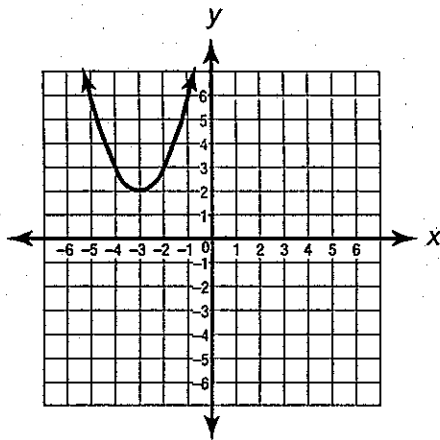


D

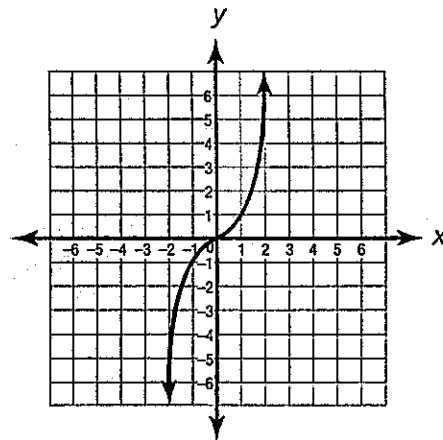


3 Which is the graph of a linear equation?

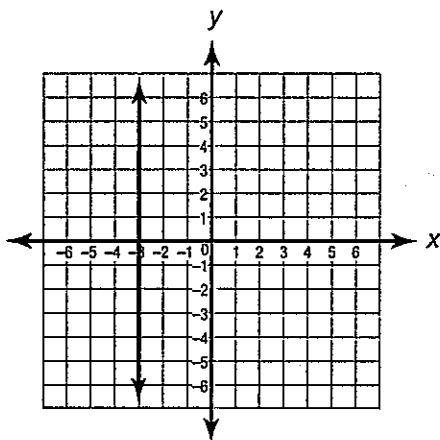
F



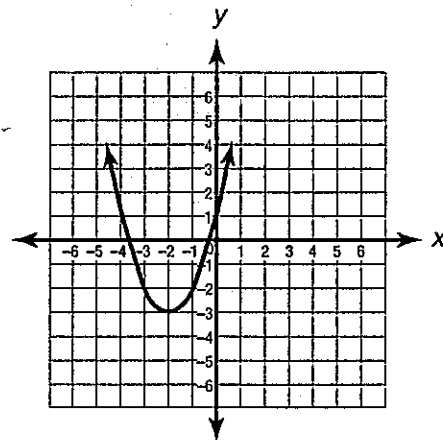
H



G



J



4 Which equation is not linear? (Hint: think about the graph of each equation.)

- A $y = 4x$
- B $y = 4x - 4$
- C $y = 4x^2$
- D $y = 4 - x$

5 Which term of the equation $y = 4x^2 + 2x - 20$ would you eliminate to create a linear equation? Write the term.

Answer: _____

6

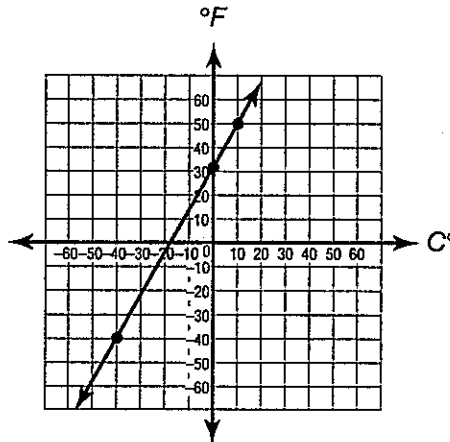
What word or words best describe the graph of a linear equation?

Answer: _____

Short-Response Question

7

This graph shows the relationship between Fahrenheit and Celsius temperature.



The equation used to make the graph is $F = 1.8C + 32$, where C represents Celsius temperature and F represents the corresponding Fahrenheit temperature.

Is the equation used to make this graph linear or nonlinear? Explain your answer.