8.F.3 **Interpret the equation y=mx+b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear.**

When graphed, which situation's data would be linear?

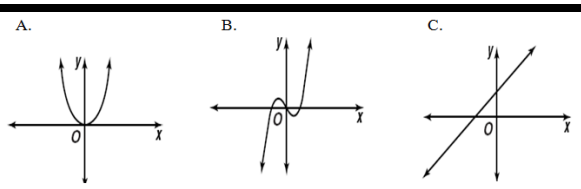
A) The temperature of the roof of a house every hour for 24 hours.

B) A person's body temperature every hour for a year.

C) The temperature of water rising 3°F every hour.

D) The daily temperature of a city for a year.

A. B. C.



Which graph represents a linear function?

a) Graph A
b) Graph B
c) Graph C
d) All three Graphs

What is the equation of the line passing through the points (5, 5) and (10, 5)?

A) $x = 5$

B) $y = 5$

C) $y = x + 5$

D) $y = x + 10$

Which equation represents a nonlinear function?

a) $y = -3x - 5$

b) $y = 0.75$

c) $y = 3x + x^2$

d) $y = \frac{1}{2}x + 2$

A given function is defined by the equation y = 5x+6

Part A: Does the equation y = 5x+6 define a linear function? Explain your answer.

Part B: Two functions are considered parallel if their slopes are equivalent.

Write the equation for a function that is parallel to the given function with a *y*-intercept of -2. Explain the equation you wrote.

Part C: Give an example of an equation that is not linear and explain why it is not linear.

8.F.3 Interpret the equation y=mx+b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear.

Which table represents a linear function?

A.

x	y
−4	8
−2	0
0	−4
2	−6

B.

x	y
−4	2
−2	0
0	2
2	4

C.

x	y
−4	2
−2	0
0	−4
0	−2

D.

x	y
−4	4
−2	2
0	0
2	−2

Parker states that any function written **without** exponents must be linear. Which function proves Parker's statement is incorrect?

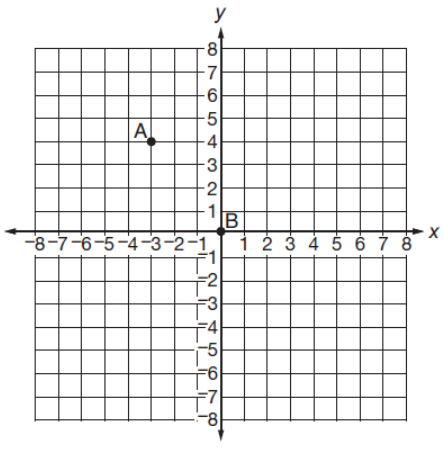
A. $y = 5x + 3$

B. $y = x^5 + 3$

C. $y = \frac{x}{3} + 5$

D. $y = \frac{3}{x} + 5$

Which equation represents the line that crosses through points A and B on the graph below?



A. $y = -\frac{4}{3}x$

B. $y = -\frac{3}{4}x$

C. $y = \frac{3}{4}x$

D. $y = \frac{4}{3}x$

Which equation represents the function shown in the table below?

x	2	4	6	8	10	12	14
y	3	8	13	18	23	28	33

A. y = 2/5x – 2

B. y = -2/5x+2

C. y = 5/2x+2

D. y=5/2x – 2