

Modeling with Functions

Date _____ Period _____

- 1) If $f(x)$ represents miles driven after x hours,
- Give an ordered pair equivalent to:
 $f(3)=105$
 - What does the 3 represent in $f(3)=105$?
 - What does 105 represent in $f(3)=105$?
- 2) In the statement "gallons of gas used is a function of miles driven"
- What is the input?
 - What is the output?

- 3) Let $G(v)$ represent cumulative grade point average as a function of hours per week spent playing video games.
Interpret $G(3)=2.84$
- 4) Which situation represents a function?
- (a member of your family, the date of their birth)
 - (the date of birth, a member of your family)
- Explain

Evaluate each function.

- 5) $g(x) = -4x + 2$; Find $g(-8)$
- 6) $h(t) = t + 1$; Find $h(-7)$
- 7) $p(x) = -2x + 5$; Find $p(-8)$
- 8) $w(t) = 2t + 3$; Find $w(0)$

9) $f(x) = 2x + 5$; Find $f(4)$

10) $f(x) = x - 5$; Find $f(0)$

11) $p(n) = 3n$; Find $p(r)$

12) $h(x) = 3x + 2$; Find $h(B)$

13) $f(x) = 4x - 5$; Find $f(n)$

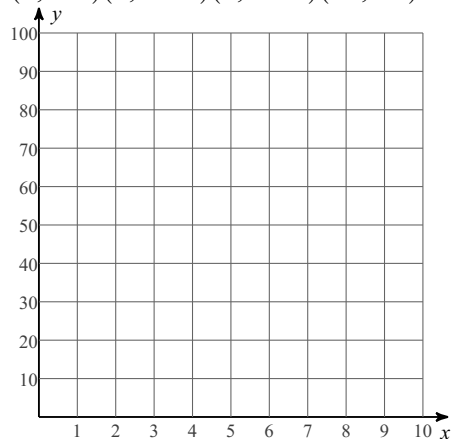
14) $k(x) = 3x + 1$; Find $k(cat)$

15) $g(x) = 2x - 5$; Find $g(-x)$

16) $k(x) = 3x - 4$; Find $k(m)$

17) The following set of ordered pairs illustrate the number of hours worked and gross pay. Plot them on the axis.

$(1, 9.5)(3, 28.5)(7, 66.5)(10, 95)$

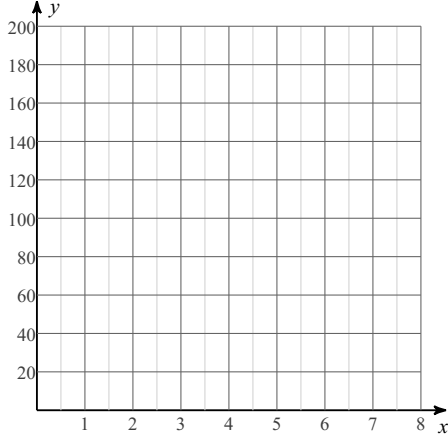


18) What is the practical domain of the function in question 1 if you are limited to working no more than 25 hours per week?

19) What is the practical range of the function in question 1 if you are limited to working no more than 25 hours per week?

20) Would you consider the function in question 1 to be discrete or continuous? Why?

21) A ball is thrown in the air. The time and height of the ball are given by the ordered pairs below. Graph them on the axis provided. $(0, 96)(1, 160)(2, 192)(2.5, 196)(4, 160)(5, 96)(6, 0)$

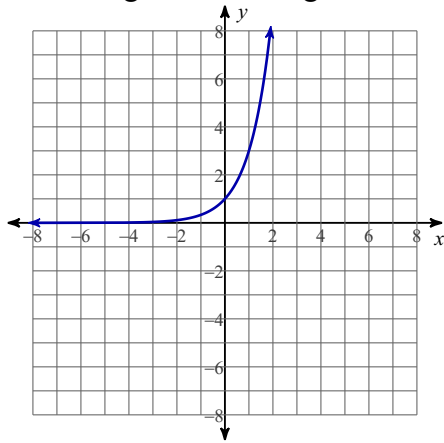


22) What is the practical domain of the function in question 5?

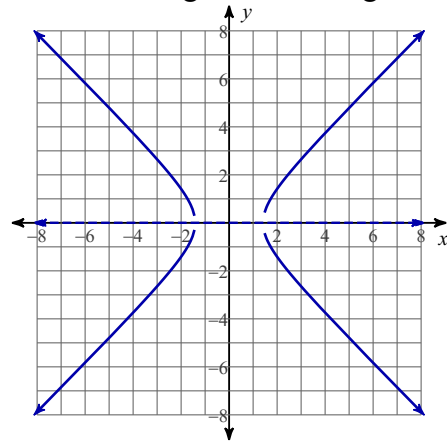
23) What is the practical range of the function in question 5?

24) Is the function in question 5 continuous or discrete? Explain.

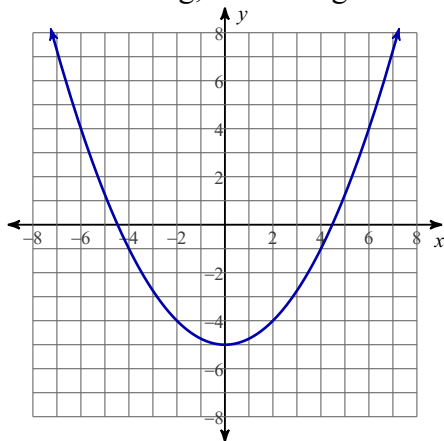
25) Is the graph a function? If so, is it increasing or decreasing?



26) Is the graph a function? If it is a function, is it increasing or decreasing?



27) Is the graph a function? If it is a function, is it increasing, decreasing or both?



28) Is the following a function? If it is a function, how would you describe it: increasing, decreasing or constant?

