

## Algebra 3: QUIZ 2.1-2.2

Name: \_\_\_\_\_

**Multiple Choice**

Identify the choice that best completes the statement or answers the question.

1. Solve the problem.

The function  $F$  described by  $F(C) = \frac{9}{5}C + 32$  gives the Fahrenheit temperature corresponding to the Celsiustemperature  $C$ . Find the Fahrenheit temperature equivalent to  $-20^\circ\text{C}$ .

- a.  $-76^\circ\text{F}$
- b.  $-4^\circ\text{F}$
- c.  $-40^\circ\text{F}$
- d.  $-112^\circ\text{F}$

2. Find the domain of the function.

$$f(x) = \frac{x^2}{x^2 + 7}$$

- a.  $\{x|x \neq -7\}$
- b.  $\{x|x > -7\}$
- c.  $\{x|x \neq 0\}$
- d. all real numbers

3. For the given functions
- $f$
- and
- $g$
- , find the requested function and state its domain.

$$f(x) = (5x^3 + 3); g(x) = (5x^2 - 3)$$

Find  $f \cdot g$ .

- a.  $(f \cdot g)(x) = 25x^6 - 15x^3 + 15x^2 - 9$ ; all real numbers
- b.  $(f \cdot g)(x) = 25x^5 - 15x^3 + 15x^2 - 9$ ;  $\{x|x \neq 0\}$
- c.  $(f \cdot g)(x) = 25x^5 - 15x^3 + 15x^2 - 9$ ; all real numbers
- d.  $(f \cdot g)(x) = 5x^3 + 5x^2 - 9$ ; all real numbers

4. For the given functions
- $f$
- and
- $g$
- , find the requested function and state its domain.

$$f(x) = 4x + 3; g(x) = 5x - 2$$

Find  $\frac{f}{g}$ .

- a.  $(\frac{f}{g})(x) = \frac{5x-2}{4x+3}; \{x|x \neq \frac{2}{5}\}$
- b.  $(\frac{f}{g})(x) = \frac{4x+3}{5x-2}; \{x|x \neq \frac{2}{5}\}$
- c.  $(\frac{f}{g})(x) = \frac{4x+3}{5x-2}; \{x|x \neq -\frac{3}{4}\}$
- d.  $(\frac{f}{g})(x) = \frac{5x-2}{4x+3}; \{x|x \neq -\frac{3}{4}\}$

5. For the given functions
- $f$
- and
- $g$
- , find the requested function and state its domain.

$$f(x) = (4x - 3); g(x) = (8x + 9)$$

Find  $f - g$ .

- a.  $(f - g)(x) = -4x + 6$ ; all real numbers
- b.  $(f - g)(x) = -4x - 12$ ;  $\{x|x \neq -3\}$
- c.  $(f - g)(x) = 12x - 12$ ;  $\{x|x \neq 1\}$
- d.  $(f - g)(x) = 4x - 6$ ; all real numbers

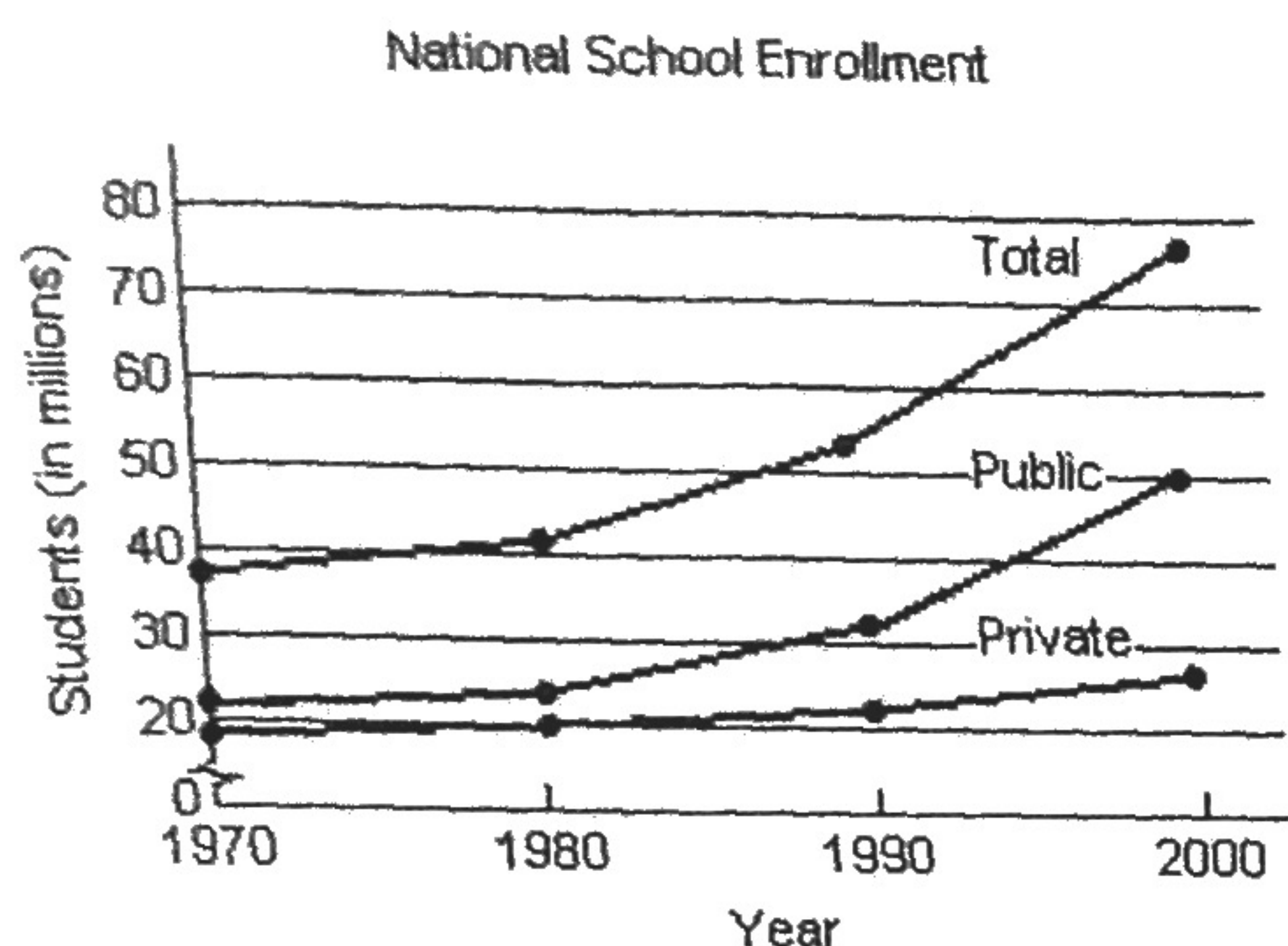
6. Determine whether the equation defines
- $y$
- as a function of
- $x$
- .

$$x^2 - 5y^2 = 1$$

- a. function
- b. not a function

7. Solve the problem.

The following graph shows the private, public and total national school enrollment for students for select years from 1970 through 2000.



- a. i) T is the sum of r and u.  
ii) 1990-2000  
iii) 1970-1980
- b. i) T is the difference of r and u.  
ii) 1970 - 1980  
iii) 1990-2000
- c. i) T is the sum of r and u.  
ii) 1970 - 1980  
iii) 1990-2000
- d. i) T is the sum of r and u.  
ii) 1970 - 1980  
iii) 1980-1990

- i) How is the graph for total school enrollment, T, determined from the graph of the private enrollment, r, and the public enrollment, u?
- ii) During which 10-year period did the total number of students enrolled increase the least?
- iii) During which 10-year period did the total number of students enrolled increase the most?

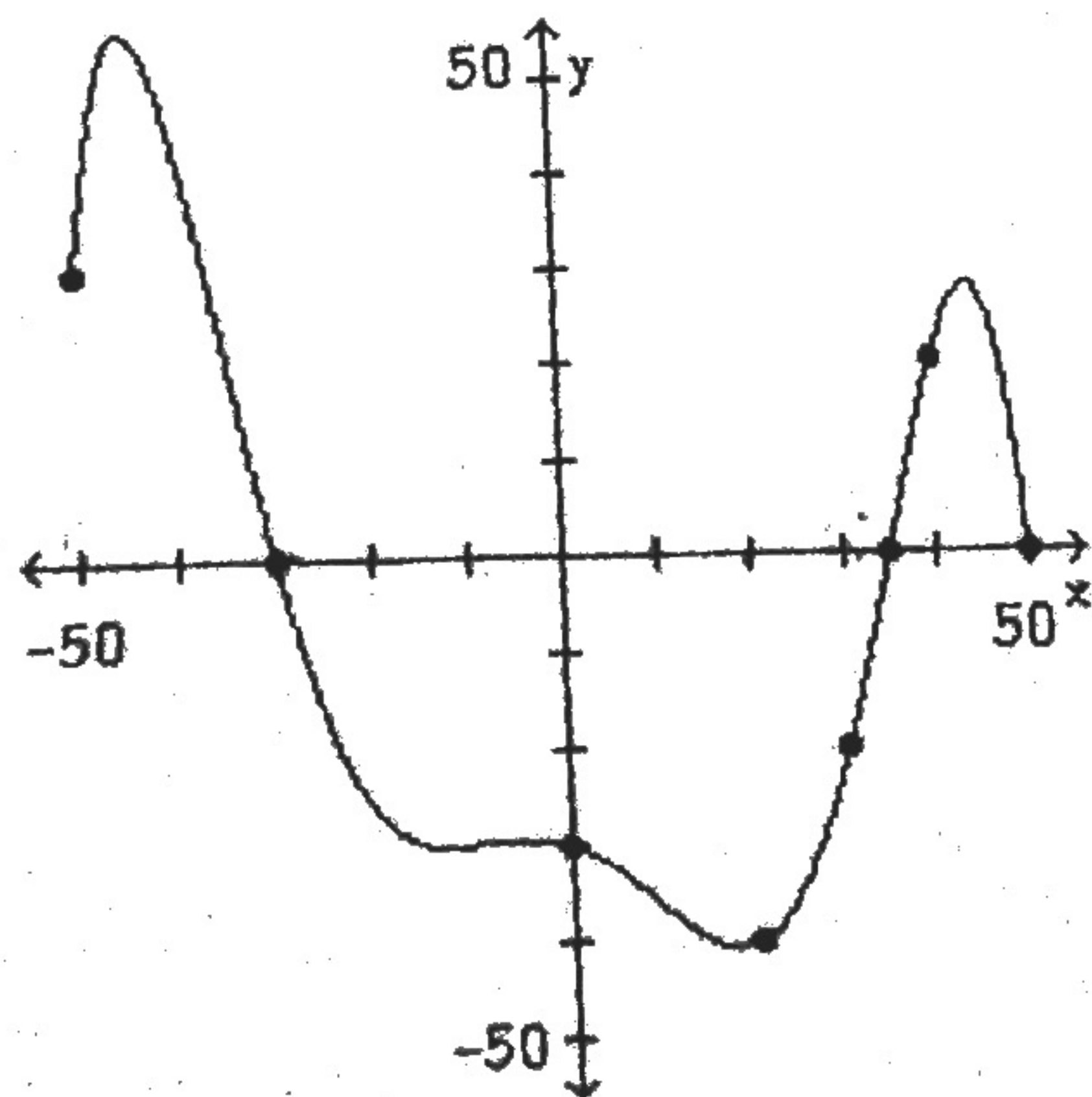
8. Determine whether the relation represents a function. If it is a function, state the domain and range.

3	→	9
5	→	15
7	→	21
9	→	27

- a. function  
domain: {9, 15, 21, 27}  
range: {3, 5, 7, 9}
- ~~b.~~ not a function
- c. function  
domain: {3, 5, 7, 9}  
range: {9, 15, 21, 27}

9. The graph of a function f is given. Use the graph to answer the question.

What are the x-intercepts?



- a. -30, 35, 50
- b. -30
- c. -30, 35
- d. -50, -30, 35, 50

10. Find the value for the function.

Find  $f(-2)$  when  $f(x) = x^2 + 3x - 2$ .

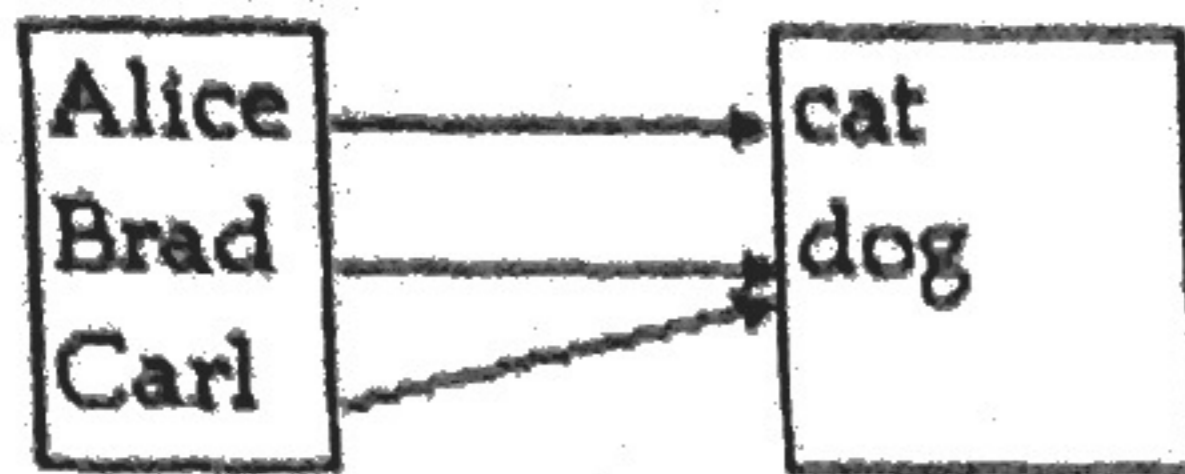
a. 12

b. 8

c. -4

d. 0

11. Determine whether the relation represents a function. If it is a function, state the domain and range.



a. not a function

b. function

domain: {Alice, Brad, Carl}

range: {cat, dog}

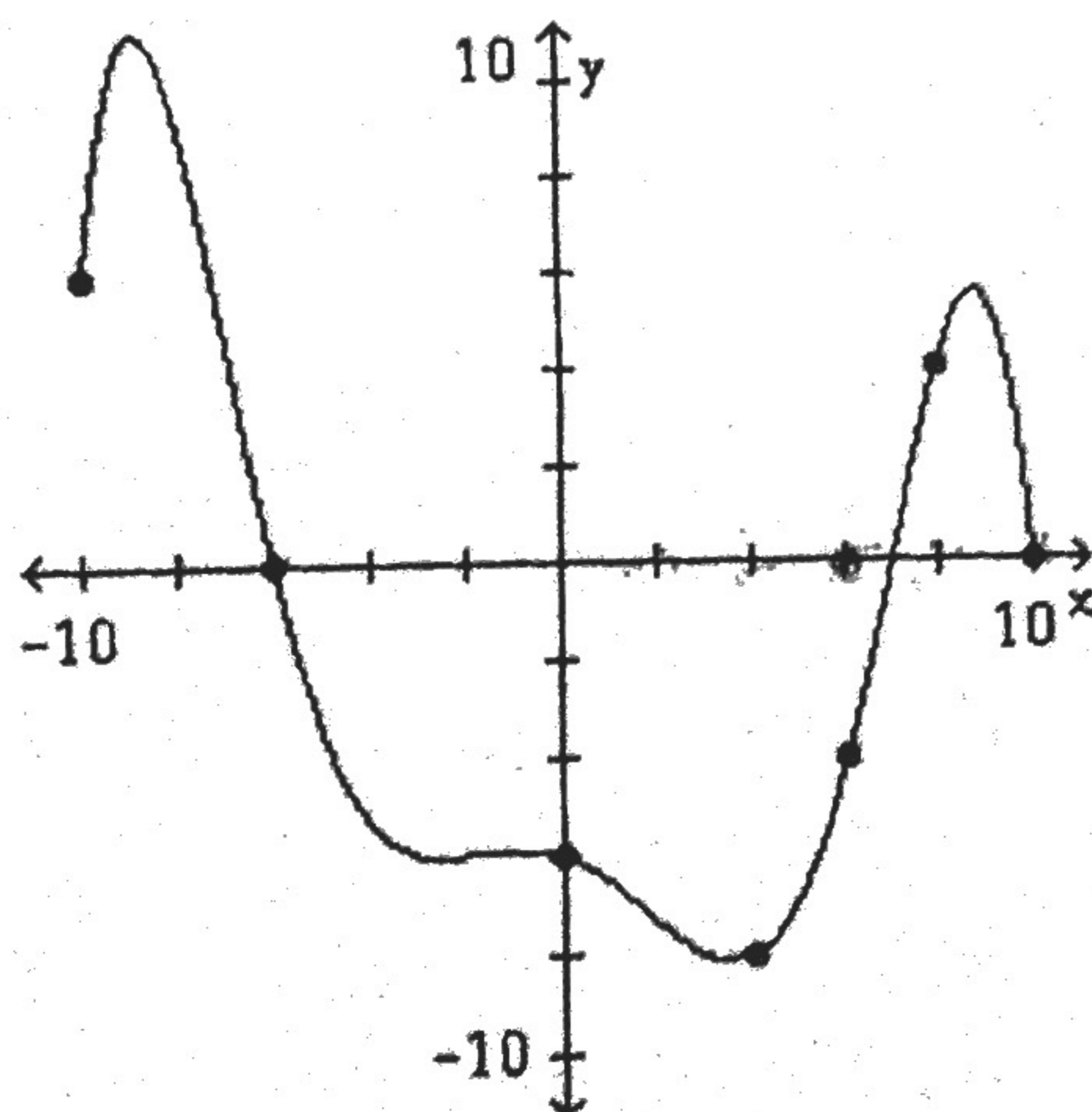
c. function

domain: {cat, dog}

range: {Alice, Brad, Carl}

12. The graph of a function  $f$  is given. Use the graph to answer the question.

Is  $f(6)$  positive or negative?



a. positive

b. negative

Algebra 3

# Quiz 2.1-2.2

Name: K.H.

QUIZ COLOR: ORANGE

1. B

2. D

3. C

4. B

5. A

6. B

7. C

8. C

9. A

10. C

11. B

12. B