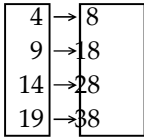


Name \_\_\_\_\_

**MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.****Determine whether the relation represents a function. If it is a function, state the domain and range.**

1)



A) function

domain: {8, 18, 28, 38}

range: {4, 9, 14, 19}

B) function

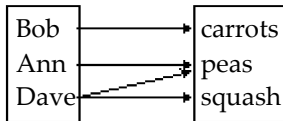
domain: {4, 9, 14, 19}

range: {8, 18, 28, 38}

C) not a function

Answer: B

2)



A) function

domain: {carrots, peas, squash}

range: {Bob, Ann, Dave}

B) function

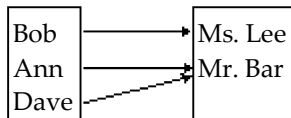
domain: {Bob, Ann, Dave}

range: {carrots, peas, squash}

C) not a function

Answer: C

3)



A) function

domain: {Ms. Lee, Mr. Bar}

range: {Bob, Ann, Dave}

B) function

domain: {Bob, Ann, Dave}

range: {Ms. Lee, Mr. Bar}

C) not a function

Answer: B

4)  $\{(-3, 6), (2, 3), (3, -3), (8, -1)\}$ 

A) function

domain: {6, 3, -3, -1}

range: {-3, 2, 3, 8}

B) function

domain: {-3, 2, 3, 8}

range: {6, 3, -3, -1}

C) not a function

Answer: B

- 5)  $\{(-1, -3), (-2, -2), (-2, 0), (2, 2), (14, 4)\}$   
 A) function domain:  $\{-3, -2, 0, 2, 4\}$  range:  $\{-1, 2, -2, 14\}$   
 B) function domain:  $\{-1, 2, -2, 14\}$  range:  $\{-3, -2, 0, 2, 4\}$   
 C) not a function

Answer: C

- 6)  $\{(-4, 11), (-3, 4), (0, -5), (3, 4), (5, 20)\}$   
 A) function domain:  $\{11, 4, -5, 20\}$  range:  $\{-4, -3, 0, 3, 5\}$   
 B) function domain:  $\{-4, -3, 0, 3, 5\}$  range:  $\{11, 4, -5, 20\}$   
 C) not a function

Answer: B

- 7)  $\{(2.44, 3.24), (2.444, -3.2), (\frac{7}{3}, 0), (2.33, -2)\}$   
 A) function domain:  $\{3.24, -3.2, 0, -2\}$  range:  $\{2.44, 2.444, \frac{7}{3}, 2.33\}$   
 B) function domain:  $\{2.44, 2.444, \frac{7}{3}, 2.33\}$  range:  $\{3.24, -3.2, 0, -2\}$   
 C) not a function

Answer: B

**Determine whether the equation defines y as a function of x.**

- 8)  $y = x^4$   
 A) function B) not a function

Answer: A

- 9)  $y = \frac{1}{x}$   
 A) function B) not a function

Answer: A

- 10)  $y = |x|$   
 A) function B) not a function

Answer: A

- 11)  $y^2 = 8 - x^2$   
 A) function B) not a function

Answer: B

- 12)  $y = \pm \sqrt{1 - 5x}$   
 A) function B) not a function

Answer: B

- 13)  $x = y^2$   
 A) function B) not a function

Answer: B

14)  $y^2 + x = 2$   
A) function B) not a function  
Answer: B

15)  $y = 7x^2 - 2x + 8$   
A) function B) not a function  
Answer: A

16)  $y = \frac{5x + 3}{x + 2}$   
A) function B) not a function  
Answer: A

17)  $x^2 + 2y^2 = 1$   
A) function B) not a function  
Answer: B

18)  $x + 7y = 5$   
A) function B) not a function  
Answer: A

19)  $-4x + x^2 - 58 = y$   
A) function B) not a function  
Answer: A

**Find the value for the function.**

20) Find  $f(4)$  when  $f(x) = x^2 - 4x + 3$ .  
A) -3 B) 35 C) 3 D) 29  
Answer: C

21) Find  $f(-2)$  when  $f(x) = \frac{x^2 - 7}{x - 1}$ .  
A) 9 B)  $-\frac{4}{3}$  C)  $-\frac{11}{3}$  D) 1  
Answer: D

22) Find  $f(-9)$  when  $f(x) = |x| - 6$ .  
A) 15 B) -15 C) -3 D) 3  
Answer: D

23) Find  $f(0)$  when  $f(x) = \sqrt{x^2 + 2x}$ .  
A)  $\sqrt{6}$  B) 0 C) 2 D)  $\sqrt{2}$   
Answer: B

24) Find  $f(-x)$  when  $f(x) = 2x^2 + 3x - 2$ .  
A)  $2x^2 - 3x + 2$  B)  $2x^2 - 3x - 2$  C)  $-2x^2 - 3x + 2$  D)  $-2x^2 - 3x - 2$   
Answer: B

25) Find  $f(-x)$  when  $f(x) = \frac{x}{x^2 + 1}$ .

A)  $\frac{-x}{x^2 + 1}$

B)  $\frac{-x}{x^2 - 1}$

C)  $\frac{-x}{-x^2 + 1}$

D)  $\frac{x}{-x^2 + 1}$

Answer: A

26) Find  $-f(x)$  when  $f(x) = 2x^2 + 4x - 4$ .

A)  $2x^2 - 4x - 4$

B)  $-2x^2 - 4x + 4$

C)  $2x^2 - 4x + 4$

D)  $-2x^2 - 4x - 4$

Answer: B

27) Find  $-f(x)$  when  $f(x) = |x| + 9$ .

A)  $| -x | + 9$

B)  $| -x | - 9$

C)  $-|x| - 9$

D)  $-|x| + 9$

Answer: C

28) Find  $f(x - 1)$  when  $f(x) = 5x^2 - 3x + 1$ .

A)  $5x^2 + 2x + 3$

B)  $5x^2 - 13x + 9$

C)  $5x^2 - 13x + 3$

D)  $-13x^2 + 5x + 9$

Answer: B

29) Find  $f(x + 1)$  when  $f(x) = \frac{x^2 - 7}{x + 4}$ .

A)  $\frac{x^2 + 2x - 6}{x - 3}$

B)  $\frac{x^2 + 2x + 8}{x + 5}$

C)  $\frac{x^2 - 6}{x + 5}$

D)  $\frac{x^2 + 2x - 6}{x + 5}$

Answer: D

30) Find  $f(2x)$  when  $f(x) = -2x^2 - 3x + 1$ .

A)  $-8x^2 - 6x + 1$

B)  $-8x^2 - 6x + 2$

C)  $-4x^2 - 6x + 2$

D)  $-4x^2 - 6x + 1$

Answer: A

31) Find  $f(2x)$  when  $f(x) = \sqrt{2x^2 - 7x}$ .

A)  $\sqrt{4x^2 - 14x}$

B)  $\sqrt{4x^2 - 28x}$

C)  $\sqrt{8x^2 - 14x}$

D)  $2\sqrt{2x^2 - 7x}$

Answer: C

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

A)  $2x^2 + 2h^2 + 7x + 7h - 3$

C)  $2x^2 + 4xh + 2h^2 + 3x + 3h - 3$

B)  $2x^2 + 2h^2 + 3x + 3h - 3$

D)  $2x^2 + 2xh + 2h^2 + 3x + 3h - 3$

Answer: C

33) Find  $f(x + h)$  when  $f(x) = \frac{9x + 8}{8x - 3}$ .

A)  $\frac{9x + 8h}{8x - 3h}$

B)  $\frac{9x + 9h + 8}{8x - 3}$

C)  $\frac{9x + 17h}{8x + 5h}$

D)  $\frac{9x + 9h + 8}{8x + 8h - 3}$

Answer: D