¡Felicitaciones! ¡Aprobaste!

PARA APROBAR 75 % o más

Continúa aprendiendo

CALIFICACIÓN 100%

Practice quiz on Types of Functions

PUNTOS TOTALES DE 6

1.	Suppose that $A = \{1, 2, 10\}$ and $B = \{4, 8, 40\}$. Which of the following
	formulae do not define a function $f: A \rightarrow B$?

1/1 puntos

$$\bigcap f(a) = 4a$$
, for each $a \in A$

$$f(1) = 4, f(2) = 40, \text{ and } f(10) = 8.$$

$$f(1) = 5, f(2) = 8, \text{ and } f(10) = 40.$$

$$f(1) = 4, f(2) = 4, \text{ and } f(10) = 4.$$

Correct

A function $f: A \rightarrow B$ is a rule which assigns an element $f(a) \in B$ to each $a \in A$. In this case, unfortunately, $f(1) = 5 \notin B$.

2. Suppose that A contains every person in the VBS study (see the second video 1/1 puntos in the course if you're confused here!). Suppose that $Y = \{+, -\}$ and $Z = \{H, S\}$

Suppose that $T:A\to Y$ is the function which gives T(a)=+ if person a tests positive and T(a) = - if they test negative.

Suppose that $D: A \to Z$ is the function which gives D(a) = H does not actually have VBS and D(a) = S if the person actually has VBS.

Which of the following must be true of person a if we have a false positive?

$$\bigcap T(a) = + \text{ and } D(a) = S$$

- \bigcirc T(a) = + and D(a) = H
- $\bigcap T(a) = -$ and D(a) = S
- $\bigcap T(a) = -$ and D(a) = H

✓ Correct

Recall that a false positive is a positive test result (so T(a) = +) which is misleading because the person actually does not have the disease (D(a) = H)

3. Consider the function $g: R \to R$ defined by $g(x) = x^2 - 1$. Which of the following points are *not* on the graph of g?

1 / 1 puntos

- \bigcirc (-1,0)
- (2,-1)
- \bigcirc (0,-1)
- \bigcirc (1,0)

✓ Correct

Recall that the graph of g consists of all points (x,y) such that y=g(x). Here $g(2)=3\neq -1$, so the point (2,-1) is \emph{not} on the graph of g.

4. Let the point A = (2, 4). Which of the following graphs does *not* contain the point A?

1 / 1 puntos

- $\bigcirc \text{ The graph of } s(x) = x^2$
- $\bigcirc \text{ The graph of } f(x) = 2x$
- \bigcirc The graph of g(x) = x + 2

✓ Correct

The graph of h consists of all points (x, y) such that y = h(x). Here

 $h(2) = 1 \neq 4$, so the point (2, 4) is *not* on the graph of h.

5. Suppose that h(x) = -3x + 4. Which of the following statements is true?

1/1 puntos

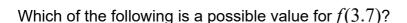
- h is a strictly decreasing function
- h is neither a strictly increasing function nor a strictly decreasing function.
- All statements are correct
- h is a strictly increasing function

✓ Correct

A function h is called strictly decreasing if whenever a < b, then h(a) > h(b)

Since the graph of h is a line with negative slope, this is in fact true!

6. Suppose that $f: \mathbb{R} \to \mathbb{R}$ is a strictly increasing function, with f(3) = 15



- 17
- \bigcirc -3
- 3
- 14.7

✓ Correct

A function f is called strictly increasing if whenever $a \le b$, then $f(a) \le f(b)$.

Since f(3) = 15 is given and 3 < 3.7, it must be that 15 < f(3.7), and this answer satisfies that.