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TO PASS 75% or higher

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GRADE

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# Practice quiz on Types of Functions

TOTAL POINTS 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 point

- ☒  $f(1) = 5, f(2) = 8, \text{ and } f(10) = 40.$
- ☐  $f(a) = 4a, \text{ for each } a \in A$
- ☐  $f(1) = 4, f(2) = 4, \text{ and } f(10) = 4.$
- ☐  $f(1) = 4, f(2) = 40, \text{ and } f(10) = 8.$



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 in the course if you're confused here!). Suppose that  $Y = \{+, -\}$  and  $Z = \{H, S\}$

1 / 1 point

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

Suppose that  $D : A \rightarrow Z$  is the function which gives  $D(a) = H$  if person  $a$  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?

- ☐  $T(a) = - \text{ and } D(a) = H$
- ☐  $T(a) = + \text{ and } D(a) = S$
- ☐  $T(a) = - \text{ and } D(a) = S$
- ☒  $T(a) = + \text{ and } D(a) = H$



Correct