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1.

(D)

2.

- a. tautology
- b. contradiction
- c. contingency
- d. contradiction
- e. tautology

$P$	$q$	$r$	$q \rightarrow r$	$P \rightarrow (q \rightarrow r)$
T	T	T	T	T
T	T	F	F	F
T	F	T	T	T
T	F	F	T	T
F	T	T	T	T
F	T	F	F	T
F	F	T	T	T
F	F	F	F	T

4.

a.  $\exists x ((C(x) \wedge \neg D(x))$

b.  $\forall x (D(x) \rightarrow C(x))$

c.  $\neg \exists x (D(x) \wedge C(x))$

5.

a.  $[-2, 4, 0, 1, 2]$

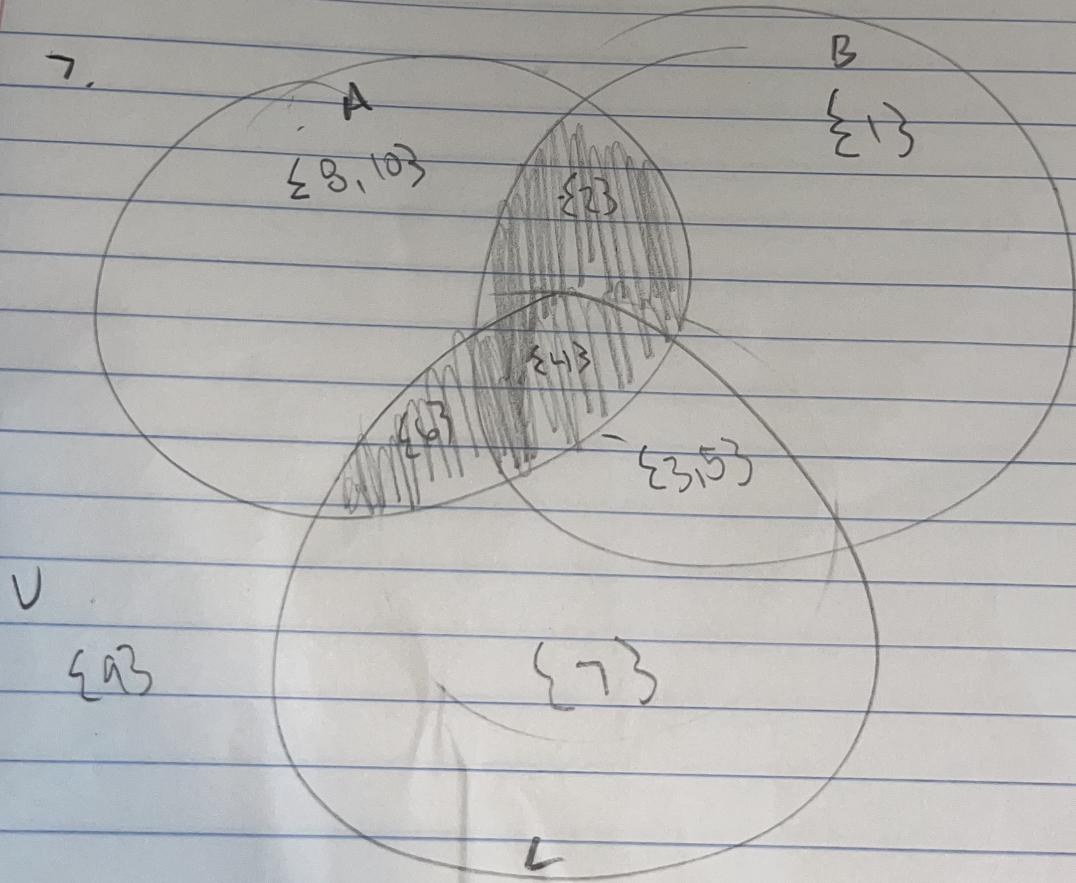
b.  $[0, 1, 4, 9, 16]$

c.  $[-10, -9, -8, -7, -6, -5, -4, -3, -2, -1]$

6.

- a - false
- b - false
- c - true
- d - true
- e - false
- f - false
- g - false
- h - true
- i - true
- j - false
- k - false
- l - true

7.



8

$$f. (A \cap \bar{B}) - \bar{C}$$

9.

$$a. f(n) = n+1$$

$$b. g(n) = [n/2]$$