

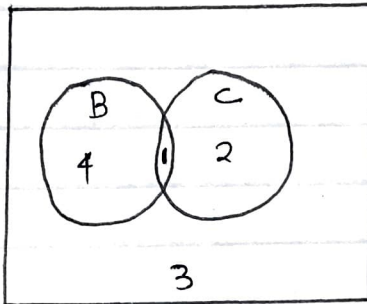
621A Midterm exam

1.

$$U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$$

$$B = \{2, 4, 6, 8, 10\}$$

$$C = \{3, 6, 9\}$$



Venn diagram

$$2. O = \{1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25\}$$

$$O' = \{2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24\}$$

$$P = \{2, 3, 5, 7, 11, 13, 17, 19, 23\}$$

(i) 25

(ii) 8

(iii) 3

(iv) 17

$$3 (a) (81 - S) + (68 - C) = 107$$

$$149 - (S + C) = 107$$

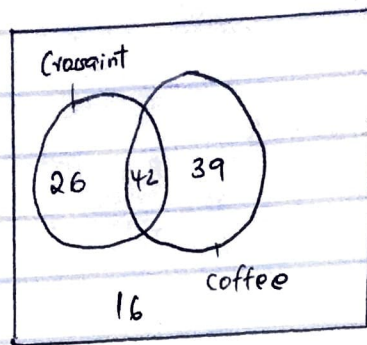
$$S + C = \underline{\underline{42}}$$

$$(b) = 81 - 42 = \underline{\underline{39}}$$

$$(c) = 68 - 42$$

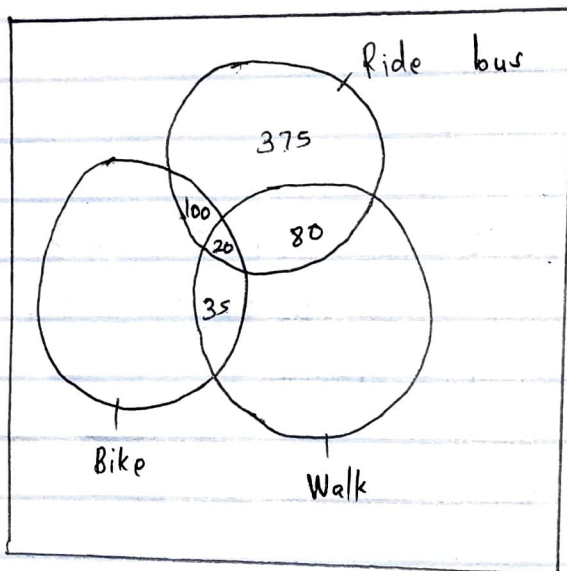
$$= 26 //$$

(d)



(4) $C \cap B = \{0, 6\}$

(5)



(6) (a) True

(b) If a number is greater than zero, it is positive. True

(c) If a number is not positive, it is not greater than zero. True

(d) If a number is not greater than zero, it is not positive. True

(e) The statement can be written as a biconditional.
A number is positive if and only if it is greater than zero.