

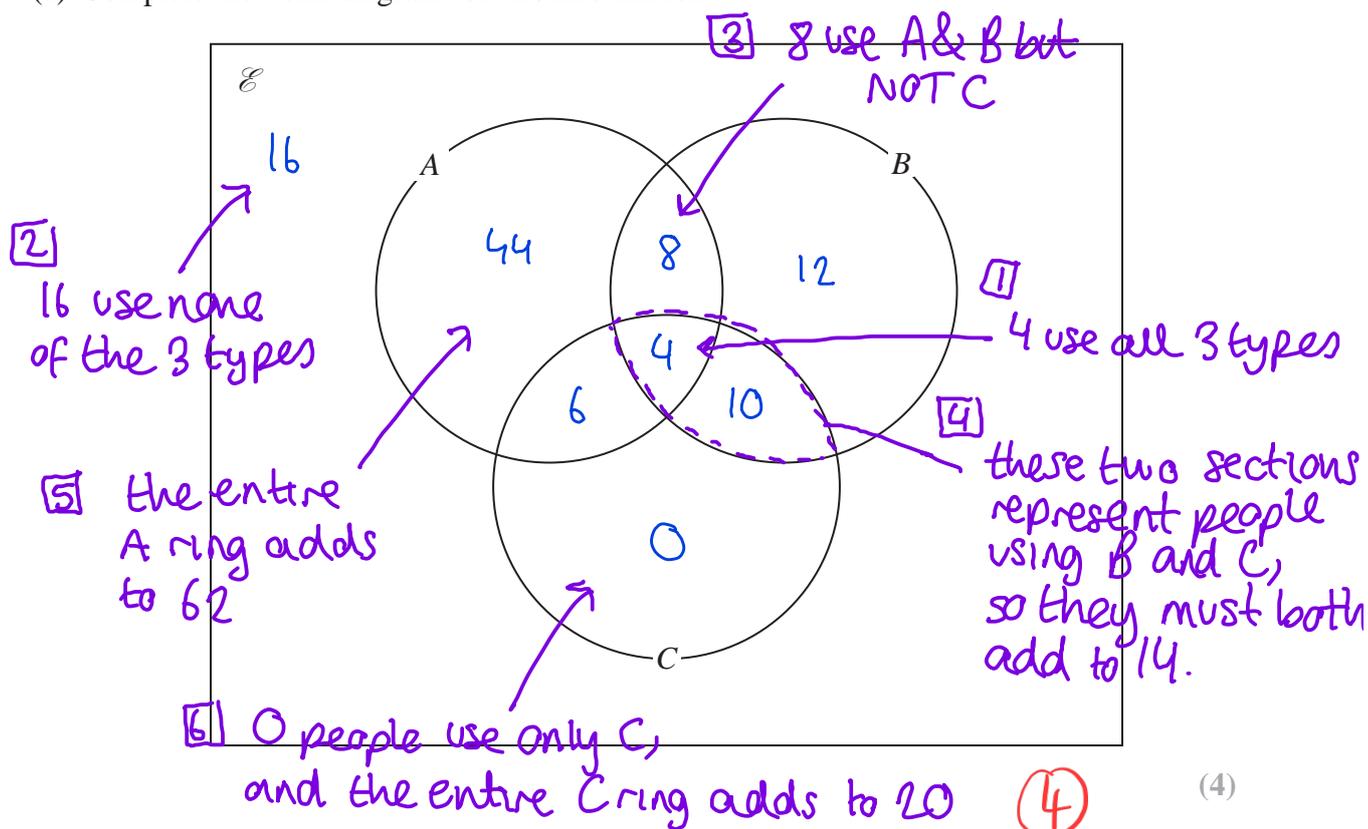
1 A shop manager wants to advertise special offers on social media platforms.

The manager asks 100 customers which of type A, type B or type C they use.

Of these customers,

- 1 4 use all three types
- 2 16 do not use any of type A, type B or type C
- 3 8 use both type A and type B, but not type C
- 4 14 use both type B and type C
- 5 62 in total use type A
- 6 all 20 who use type C also use at least one of type A and type B.

(a) Complete the Venn diagram for this information.



One of the customers is chosen at random.

Given that this customer uses type A,

(b) find the probability that this customer also uses type B.

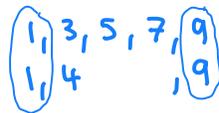
$$\text{Prob (B given A)} = \frac{\text{Prob (A and B)}}{\text{Prob (A)}} = \frac{8+4}{62} = \frac{12}{62}$$

(2)

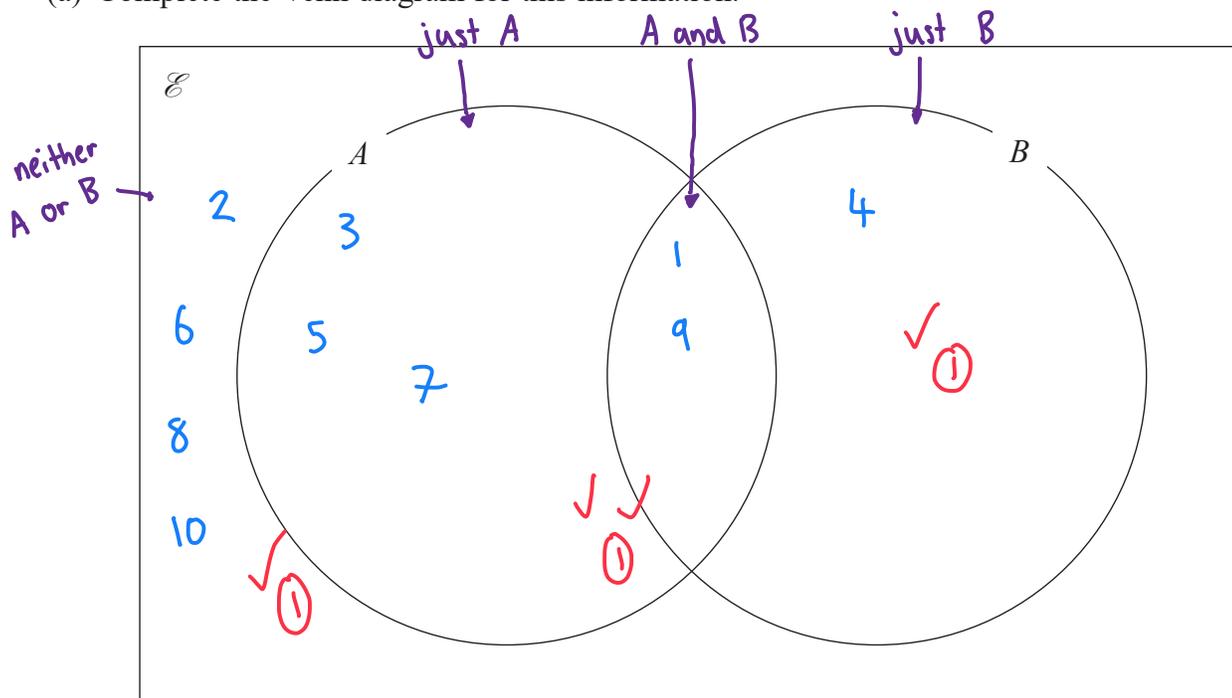
(Total for Question 1 is 6 marks)

- 2 $\mathcal{E} = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$
 $A = \{\text{odd numbers}\}$
 $B = \{\text{square numbers}\}$

List out A and B
 between 1-10



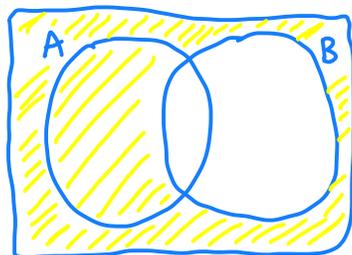
(a) Complete the Venn diagram for this information.



(3)

A number is chosen at random from the universal set \mathcal{E}

(b) Find the probability that this number is in the set B' B' means not B



$B' = \text{shaded}$

7 numbers not in B
 10 total numbers

✓ ①

$\frac{7}{10}$ ✓ ①

(2)

(Total for Question 2 is 5 marks)