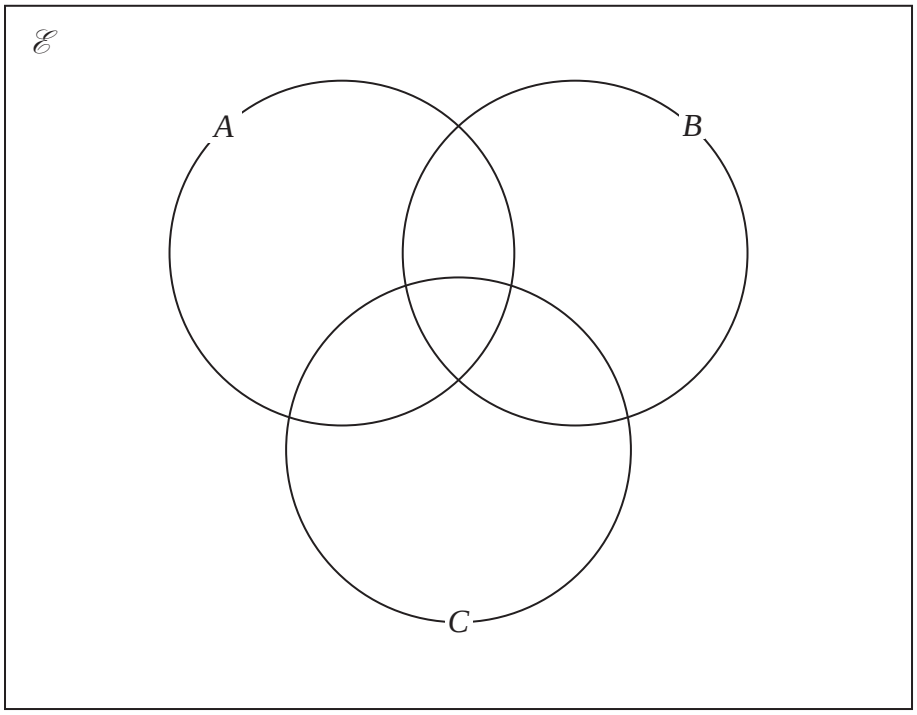
1 A shop manager wants to advertise special offers on social media platforms.

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

Of these customers,

4 use all three types
16 do not use any of type *A*, type *B* or type *C*
8 use both type *A* and type *B*, but not type *C*
14 use both type *B* and type *C*
62 in total use type *A*
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.



(4)

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*.

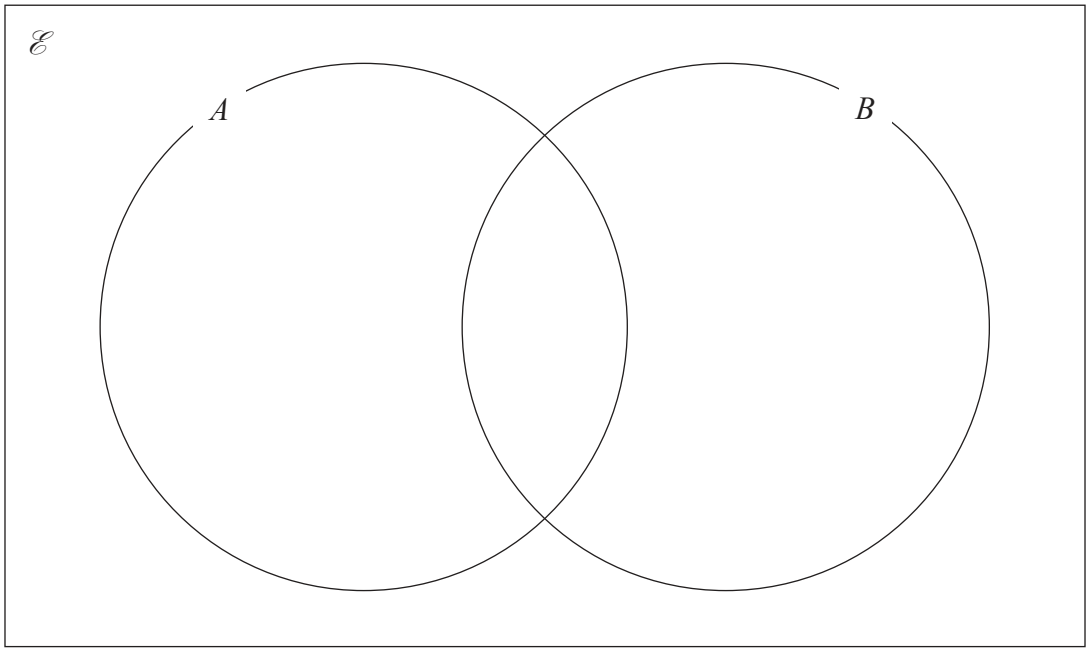
.....

(2)

(Total for Question 1 is 6 marks)

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

(a) Complete the Venn diagram for this information.



(3)

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

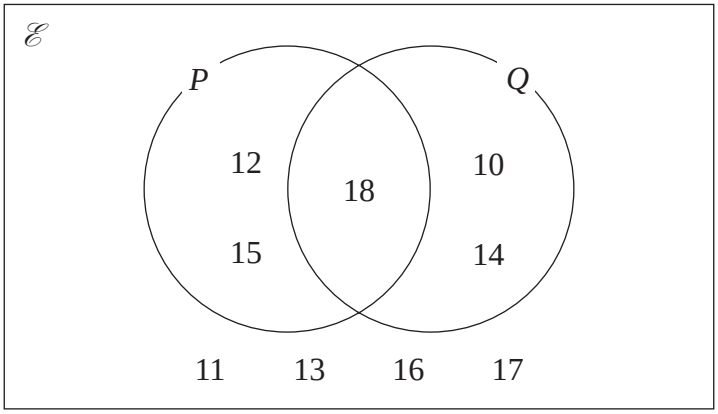
(b) Find the probability that this number is in the set B'

.....

(2)

(Total for Question 2 is 5 marks)

3 Here is a Venn diagram.



(a) Write down the numbers that are in set P'

.....

(1)

A number is chosen at random from the universal set, $\mathscr{E}$

(b) Find the probability that this number is in the set $P \cup Q$

.....

(2)

(Total for Question 3 is 3 marks)