5. A company has 1825 employees.
The employees are classified as professional, skilled or elementary.

The following table shows

- the number of employees in each classification
- the two areas, A or B, where the employees live

	A	*B*
Professional	740	380
Skilled	275	90
Elementary	260	80

An employee is chosen at random.

Find the probability that this employee

(a) is skilled,

(1)

(b) lives in area B and is not a professional.

(1)

Some classifications of employees are more likely to work from home.

- 65% of professional employees in both area A and area B work from home
- 40% of skilled employees in both area A and area B work from home
- 5% of elementary employees in both area A and area B work from home
- Event F is that the employee is a professional
- Event H is that the employee works from home
- Event R is that the employee is from area A

(c) Using this information, complete the Venn diagram on the opposite page.

(4)

(d) Find $\mathrm{P}(R' \cap F)$

(1)

(e) Find $\mathrm{P}([H \cup R]')$

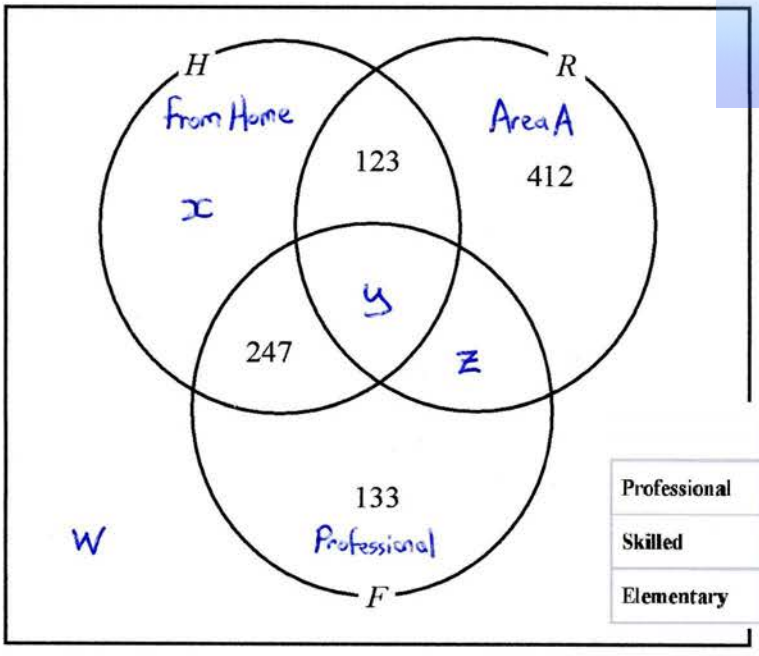
(1)

(f) Find $\mathrm{P}(F \mid H)$

(2)

Question 5 continued

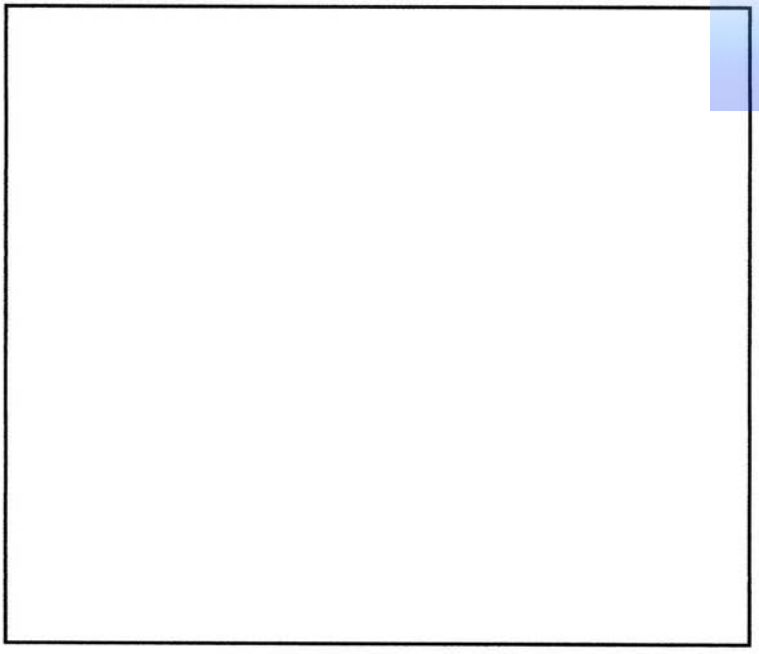
(c)



	A	*B*
Professional	740	380
Skilled	275	90
Elementary	260	80

- 65% of professional employees in both area *A* and area *B* work from home
- 40% of skilled employees in both area *A* and area *B* work from home
- 5% of elementary employees in both area *A* and area *B* work from home

Question 5 continued



(d) Find $\mathrm{P}(R' \cap F)$

(e) Find $\mathrm{P}\big([H \cup R]'\big)$

(f) Find $\mathrm{P}(F \mid H)$