

Starter - 2018 Past Paper

2. A school management team has gathered together information on the percentages of pupils and staff going on school trips, and the percentage of pupils and staff who arrive late for these trips. For one particular trip, of those going 46% were junior pupils, 41% were senior pupils and the rest were staff. It is noted that 9% of those junior pupils, 20% of the senior pupils and 6% of the staff arrived late.

(a) Calculate the probability that a randomly chosen person on this trip:

- (i) was a junior pupil who arrived on time
- (ii) was late.

3

May 30-09:55

Question		Generic scheme	Illustrative scheme	Max mark	
2.	(a)	(i)	<ul style="list-style-type: none"> •¹ correct probability 	<ul style="list-style-type: none"> •¹ 0.4186 	3
		(ii)	<ul style="list-style-type: none"> •² appropriate strategy 	<ul style="list-style-type: none"> •² 	
			<ul style="list-style-type: none"> •³ calculate probability 	<ul style="list-style-type: none"> •³ 0.1312 	

Notes:
Other methods are acceptable



Unions & Intersections

Today we are learning...

How to calculate probabilities involving unions and intersections.

I will know if I have been successful if...

I understand what a Venn diagram is.

I understand the difference between a union and an intersection.

I understand the phrase compliment.

May 5-11:54

Unions & Intersections

A group of scientists captured toads, snakes and butterflies. They also recorded the sex of the animal. The table below records the number of each animal captured.

	T	S	B
M	18	19	37
F	22	11	13

Calculate

1) $P(T \cap M)$

2) $P(S \cup F)$

3) $P(\bar{F} \cap S)$

May 5-11:54

Unions & Intersections

2021 AH Stats Paper

2. A primary school has the following staff.

	Teachers	Admin	Other
Female	18	7	5
Male	12	3	5

A member of staff is selected at random.

F is the event that the person selected is female, T is the event that the person selected is a teacher and A is the event that the person selected is admin staff.

- (a) Find the probabilities of $P(F \cap T)$ and $P(F \cup \bar{A})$. 2
- (b) Given that 80% of the teachers, 50% of the admin staff and 30% of the other staff drive to school, calculate the probability that
- (i) a randomly selected member of staff drives to school 2

May 5-11:54

Marking Scheme

Question		Generic scheme	Illustrative scheme	Max mark
2.	(a)	<ul style="list-style-type: none"> •¹ correct probability •² correct probability 	<ul style="list-style-type: none"> •¹ 0.36 •² 0.94 	2
	(b) (i)	<ul style="list-style-type: none"> •³ appropriate strategy •⁴ calculate probability 	<ul style="list-style-type: none"> •³ $\frac{30}{50} \times \dots + \frac{10}{50} \times \dots + \frac{10}{50} \times \dots$ •⁴ $\left(\frac{30}{50} \times 0.8 + \frac{10}{50} \times 0.5 + \frac{10}{50} \times 0.3 \right)$ = 0.64 	2

Jun 16-09:51