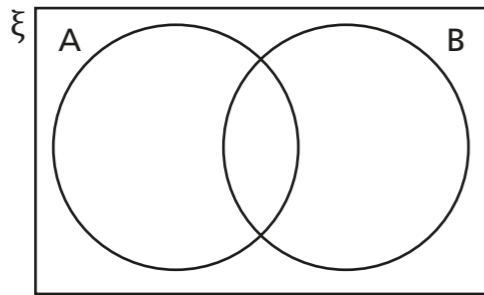


# Understand and use the union of sets

1 Here are two sets: A and B.



- a) Shade the region that represents  $A \cup B$ .
- b) Describe what  $A \cup B$  means.

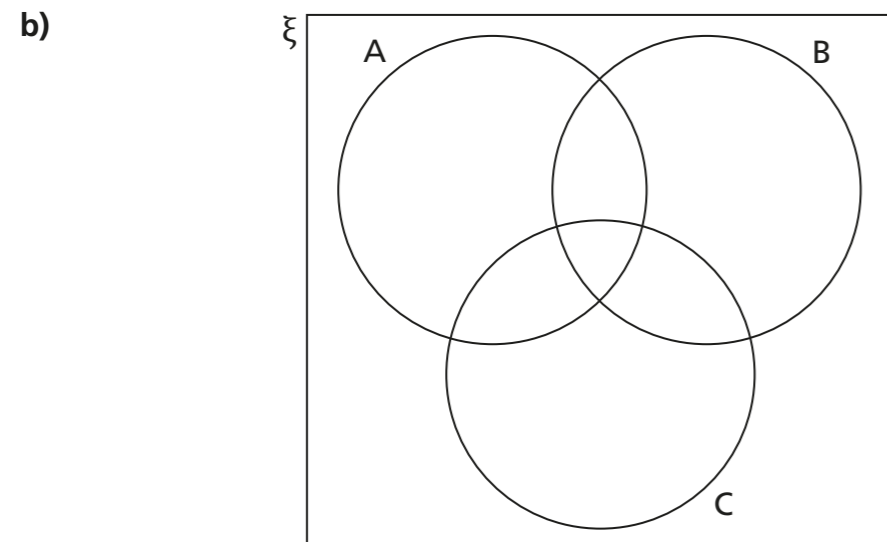
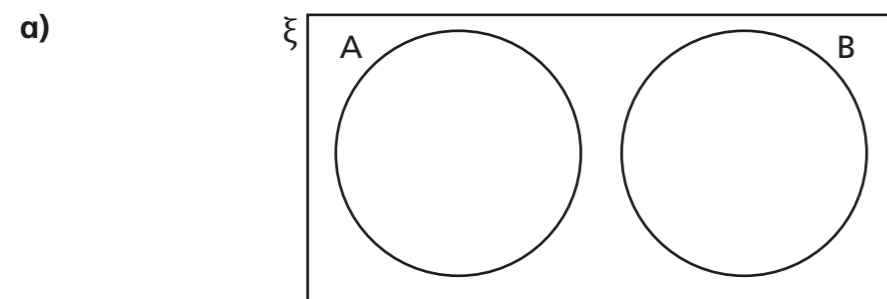
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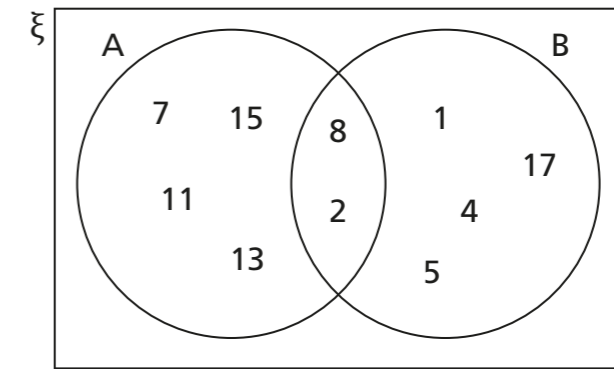
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2 Shade the regions that represent  $A \cup B$ .



3 a)



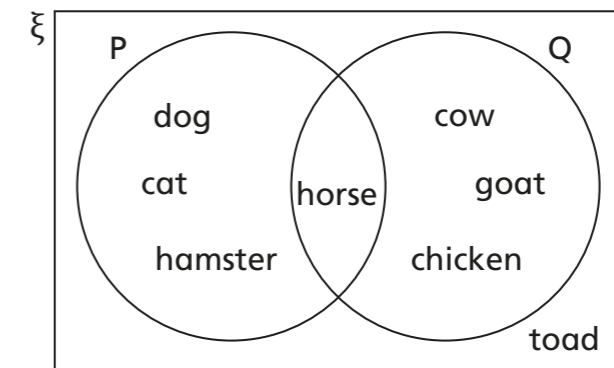
Write the elements of  $A \cup B$ .

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b)



Write the element of  $P \cup Q$ .

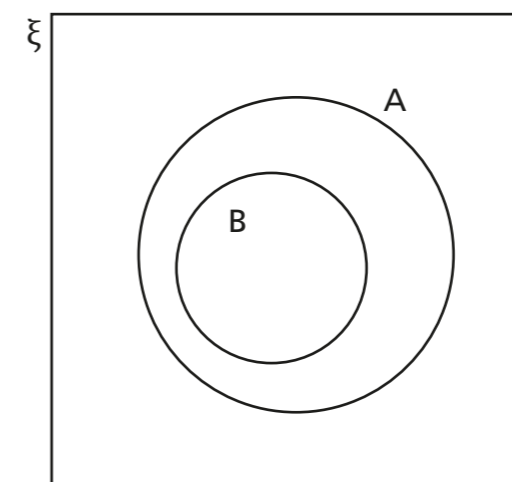
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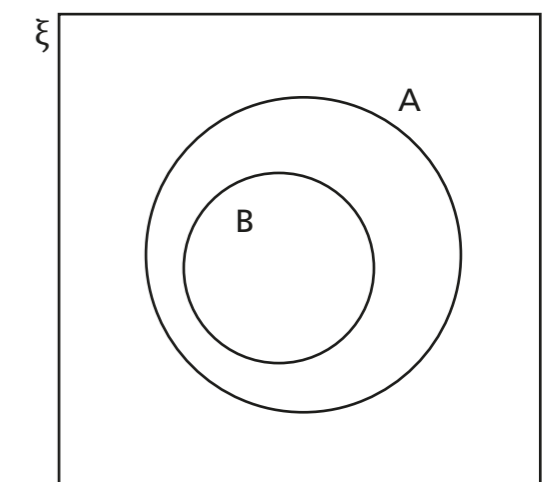
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4 Shade the regions.

a)  $A \cup B$



b)  $A \cap B$



- 5 A is the set of children who went to a theme park on a school trip.  
B is the set of children who went to a museum on a school trip.

$A = \{\text{Whitney, Filip, Rosie, Ron, Nijah, Brett, Amir}\}$

$B = \{\text{Eva, Ron, Kim, Tom, Filip, Huan, Amir, Mo}\}$

- a) List the elements of  $A \cup B$ .

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- b) The teacher says that  $A \cup B$  is the children who went to both the theme park and the museum.

Explain why the teacher is incorrect.

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6

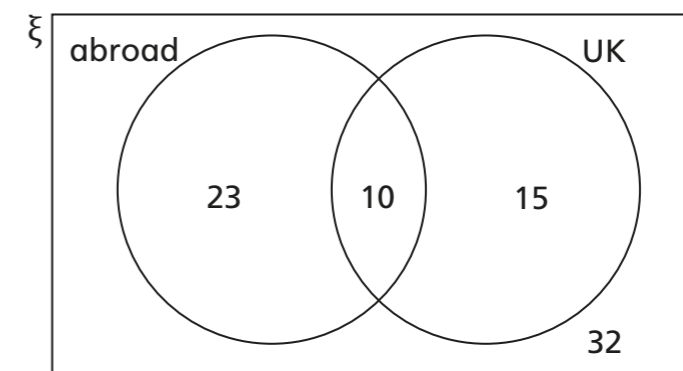
$A \cap B = \{-2, 3, 8, 11\}$   
 $A \cup B = \{-2, -1, 1, 3, 5, 8, 10, 11, 15\}$

Draw a possible Venn diagram to represent A and B.

Compare your diagram to a partner's.  
What is the same and what is different?



- 7 80 families were asked if they went on holiday abroad or in the UK.

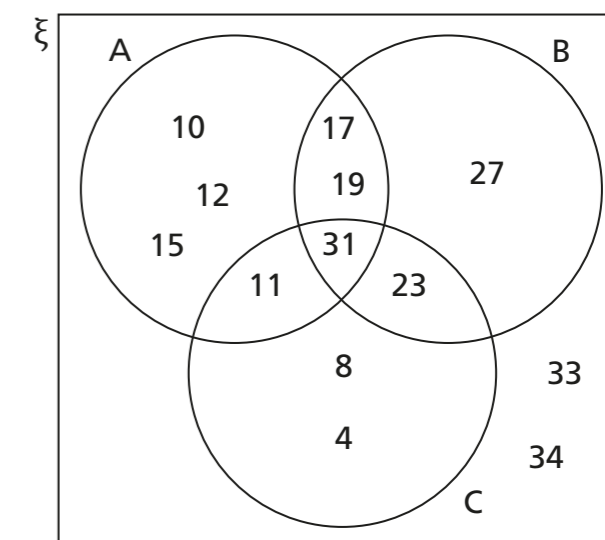


- a) How many families went on holiday abroad?

- b) How many families went on holiday either abroad or in the UK?

- c) How many families went on holiday abroad and in the UK?

- 8 Here are three sets: A, B and C.



List the elements of:

a)  $A \cup B = \{ \text{_____} \}$

b)  $A \cup C = \{ \text{_____} \}$

c)  $B \cup C = \{ \text{_____} \}$

d)  $A \cup B \cup C = \{ \text{_____} \}$

e)  $(A \cap B) \cup C = \{ \text{_____} \}$

f)  $(A \cup B) \cap C = \{ \text{_____} \}$

