

Please put away all papers and electronic devices. Show enough work that it is clear how you arrived at your answer. Correct answers with no work shown will not receive full credit. Box/circle your final answers. Good luck!

1. For each of the following statements, draw a Venn diagram with labelled sets and properly placed x's when appropriate that correctly reflects the content of the statement (and *only* the content of the statement).

(a) (5 points) All chickens are funny.

(b) (5 points) Only chickens are funny.

(c) (5 points) Some chickens are funny.

(d) (5 points) Some chickens are not funny.

(e) (5 points) No chickens are funny.

(f) (5 points) Some things that are funny are not chickens.

2. The following chart describes the demographics of the attendees of a particular event.

	under 35	35 or older
Single	26	18
Married	23	31

(a) (10 points) Draw a Venn diagram with labelled sets that reflects the same information by labelling each region of the diagram with the correct number of attendees.

(b) (10 points) How many attendees of this event were single and 35 or older?

(c) (10 points) How many attendees of this event were single or under 35?

3. Negate each of the following statements.

(a) (8 points) All drummers can count.

(b) (8 points) Some drummers can count.

4. For each of the following arguments, draw and label a Venn diagram that correctly reflects the content of the premises. Then determine if the argument is valid. If the argument is valid, determine if the argument is sound.

- (a) (12 points) (1) No pilot wears jeans.
(2) All motorcycle riders wear jeans.
 \therefore No pilot is a motorcycle rider.

- (b) (12 points) (1) All musicians have a brain.
(2) Some musicians play the guitar.
 \therefore Some guitar players have a brain.