Elementary Statistics	**Name:** _____
Study Guide 11	**Class:** _____
Due Date: _____	**Score:** _____

No Work $\Leftrightarrow$ No Points

Use Pencil Only $\Leftrightarrow$ Be Neat & Organized

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1. Given: $P(A) = 0.35$, $P(B) = 0.45$, and A and B are mutually exclusive events. Find

(a) (2 points) $P(A$ **and** $B)$

(a) _____

(b) (2 points) $P(A$ **or** $B)$

(b) _____

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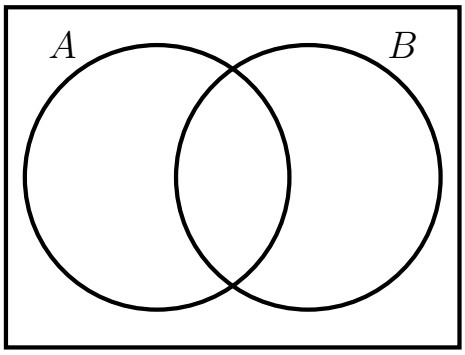
2. Given: $P(A) = 0.45$, $P(B) = 0.65$, and $P(A$ and $B) = 0.25$.

(a) (3 points) Construct the Venn diagram.



(b) (2 points) Find $P(\overline{A})$

(b) _____

(c) (2 points) Find $P(\overline{B})$

(c) _____

(d) (2 points) Find $P(\overline{A \text{ and } B})$

(d) _____

(e) (2 points) Find $P(A \text{ or } B)$

(e) _____

(f) (2 points) Find $P(\overline{A \text{ or } B})$

(f) _____

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3. Given: $P(A) = 0.15$, $P(B) = 0.75$, and A and B are disjoint events.

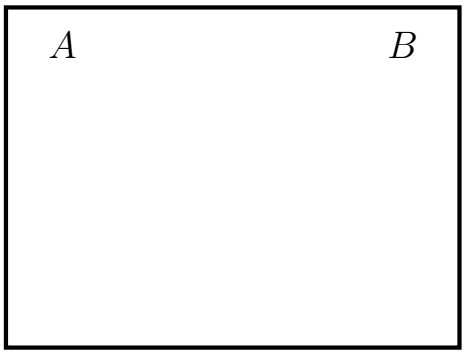
(a) (2 points) Find $P(A \text{ and } B)$

(a) _____

(b) (2 points) Find $P(\overline{A \text{ and } B})$

(b) _____

(c) (3 points) Complete the Venn diagram below.



(d) (2 points) Find $P(\overline{B})$

(d) _____

(e) (2 points) Find $P(A$ or $B)$

(e) _____

(f) (2 points) Find $P(\overline{A \text{ or } B})$

(f) _____

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4. Given: $P(A) = 0.55$, $P(B) = 0.75$, and $P(A$ or $B) = 0.85$.

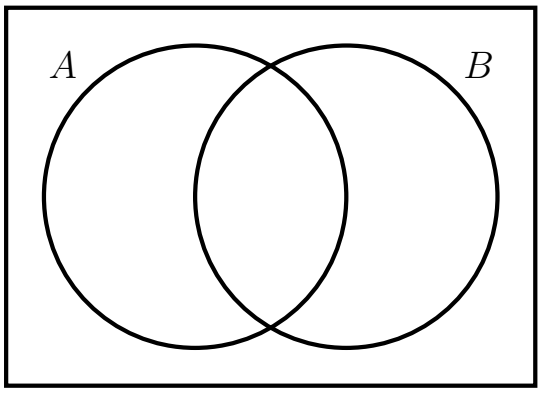
(a) (2 points) Find $P(\overline{A \text{ or } B})$

(a) _____

(b) (2 points) Find $P(A$ and $B)$

(b) _____

(c) (3 points) Construct the Venn diagram.



(d) (2 points) Find $P(A$ or B but not both$)$

(d) _____

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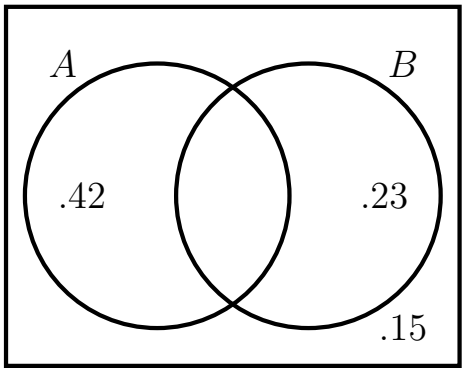
5. (2 points) Complete the Venn diagram given below,



(a) (2 points) Use the Venn diagram and De Morgan's law to find $P(\overline{A}$ and $\overline{B})$.

(a) _____

(b) (2 points) Use the Venn diagram and De Morgan's law to find $P(\overline{A}$ or $\overline{B})$.

(b) _____

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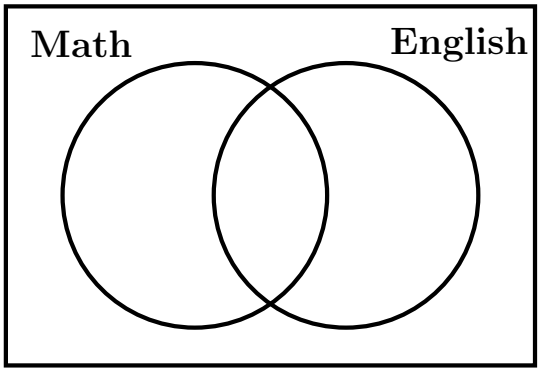
6. In a survey of 50 students, 38 students were taking math or English class while 12 of them were taking both classes and 7 were taking only math class.

(a) (3 points) Use this information to construct the Venn Diagram with the probability for the number of students in each region.



(b) (2 points) What is the probability of selecting one of these students who is taking only one of these classes, not both?

(b) _____
