MAT 119 Quiz 1 Name _____

Use pencil, please. Class Time _____

Place **ANSWERS ONLY** in the boxes.

A = {1, 2, 3, 5, 8} B = {1, 3, 6} C = {4, 6} U = {1, 2, 3, 4, 5, 6, 7, 8}

☐ 1) Find $A \cup B$ A) {1, 3} B) {1, 2, 3, 5, 6, 8} C) {1, 3, 6} D) { } E) None of These

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☐ 2) Find $A \cap C$ A) {1, 2, 3, 4, 5, 6, 8} B) {4, 6} C) {1, 2, 3, 5, 8} D) { } E) None of These

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☐ 3) Find $\overline{A \cup B}$ A) {4, 7} B) { } C) {2, 4, 5, 6, 7, 8} D) {3, 6, 7} E) None of These

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☐ 4) Find $\overline{(B \cup C)} \cap \overline{A}$ A) {3, 4, 6, 8} B) {7, 8} C) { } D) {2, 3, 4, 5, 6, 7, 8} E) None of These

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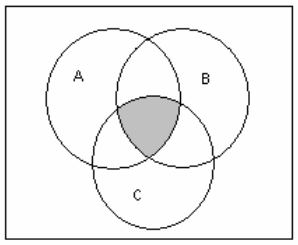
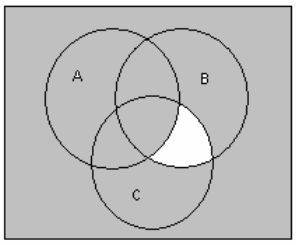
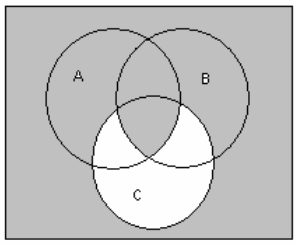
A)



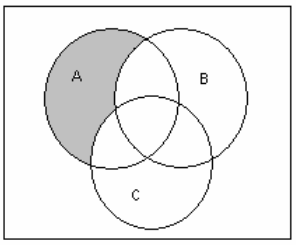
B)



C)



D)



E) None of These

☐ 5) Which of the shaded regions above represents $(A \cup B) \cap \overline{C}$?

☐ 6) Which of the shaded regions above represents $\overline{A \cup (B \cap C)}$?

☐ 7) Which of the following is not a subset of {M, N, O, P}? (The symbol for subset is)

A) {M, O} B) {M, N, O, P} C) {P} D) { } E) Answers A, B, C, and D are all subsets

☐ 8) Which of the following is not a proper subset of {M, N, O, P}? (The symbol for proper subset is)

A) {M, O} B) {M, N, O, P} C) {P} D) { } E) Answers A, B, C, and D are all proper subsets

☐ 9) If $c(A \cup B) = 34$, $c(A) = 12$, and $c(B) = 27$, then find $c(A \cap B)$.

A) 5 B) 12 C) 7 D) 22 E) None of These

(For Problems 10 through 13) 80 people were surveyed. 61 owned a cell phone, 24 owned an MP3 player, and 18 owned both. Match the correct answer on the right with the question on the left.

(Hint: Draw a Venn diagram)

☐	10) How many didn't own either?	A) 0	K) 43
☐	11) How many owned a cell phone, but not an MP3 player?	B) 6	M) 49
☐	12) How many owned an MP3 player, but not a cell phone?	C) 13	P) 61
☐	13) How many owned a cell phone or an MP3 player?	D) 18	T) 67
		E) 19	X) None of These
		F) 24	
		H) 37	

(For Problems 14 through 17) 500 patrons were surveyed at the mall. 217 used a credit card. 150 wrote a check. 310 paid in cash. 120 used a credit card and paid in cash. 44 used a credit card and wrote a check. 74 wrote a check and paid in cash. 10 used all three methods to purchase something. The rest didn't purchase anything. Match the correct answer on the right with the question on the left.

☐	14) How many only used a credit card?	A) 36	K) 110
☐	15) How many didn't purchase anything?	B) 39	M) 120
☐	16) How many used a credit card and paid cash, but didn't write a check?	C) 42	P) 126
☐	17) How many people didn't use a credit card or write a check?	D) 59	T) 177
		E) 63	H) 299
		F) 94	
		X) None of These	

(For Problems 18 through 21) A very small town ran an election for the mayor's office. The voting results were as follows. Match the correct answer on the right with the question on the left.

	Smith	Fernandez	Chang
Male Votes	14	33	10
Female Votes	21	4	31

☐	18) How many voted for Chang?	A) 4	K) 78
☐	19) How many were female and voted for Fernandez?	B) 10	M) 89
☐	20) How many were male or voted for Smith?	C) 14	P) 33
☐	21) How many were female and did not vote for Chang	D) 25	T) 27
		E) 41	H) 64
		F) 47	
		X) None of These	