1. Suppose $A = \{0,2,4,6,8\}$ and $B = \{4,5,6,7,8\}$ have universal set $U=\{0,1,2,3,4,5,6,7,8\}$. Find:

  (a) $A - B =$ $\{0,2\}$

  (b) $A \cap B =$ $\{4,6,8\}$

  (c) $\overline{B} =$ $\{0,1,2,3\}$

  (d) $B \cap \overline{B} =$ ϕ

  (e) $A \cup B =$ $\{0,2,4,5,6,7,8\}$

  (f) $\overline{A \cup B} =$ $\{1,3\}$

2. Suppose $A_1 = \{a,b,c,d,e\}$, $A_2 = \{d,e,f\}$ and $A_3 = \{e,f,g,h\}$.

  (a) $\displaystyle\bigcup_{i=1}^{3} A_i =$ $\{a,b,c,d,e,f,g,h\}$

  (b) $\displaystyle\bigcap_{i=1}^{3} A_i =$ $\{e\}$

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  (a) $\overline{A} =$ $\{1,3,5,7\}$

  (b) $B - A =$ $\{5,7\}$

  (c) $B - \overline{A} =$ $\{4,6,8\}$

  (d) $A \cup \overline{A} =$ $U = \{0,1,2,3,4,5,6,7,8\}$

  (e) $A \cap \overline{A} =$ ϕ

  (f) $\overline{A \cap \overline{A}} =$ $\overline{\phi} = U = \{0,1,2,3,4,5,6,7,8\}$

2. Suppose $A_1 = \{a,b,c,d,e\}$, $A_2 = \{d,e,f\}$ and $A_3 = \{e,f,g,h\}$.

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1. Suppose $A = \{4,5,6,7,8\}$ and $B = \{0,2,4,6,8\}$ have universal set $U=\{0,1,2,3,4,5,6,7,8\}$. Find:

   (a) $\overline{A} = \{0, 1, 2, 3\}$

   (b) $\overline{B} = \{1, 3, 5, 7\}$

   (c) $B \cap \overline{A} = \{0, 2\}$

   (d) $B \cup \overline{A} = \{0, 1, 2, 3, 4, 6, 8\}$

   (e) $A - \overline{A} = A = \{4,5,6,7,8\}$

   (f) $\overline{A \cup B} = \overline{\{0,2,4,5,6,7,8\}} = \boxed{\{1, 3\}}$

2. Suppose $A_1 = \{a,b,c,d,e\}$, $A_2 = \{d,e,f\}$ and $A_3 = \{e,f,g,h\}$.

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1. Suppose $A = \{4,5,6,7,8\}$ and $B = \{0,2,4,6,8\}$ have universal set $U=\{0,1,2,3,4,5,6,7,8\}$. Find:

   (a) $A - B = \{5, 7\}$

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   (c) $\overline{B} = \{1, 3, 5, 7\}$

   (d) $\overline{A} \cap \overline{B} = \{1, 3\}$

   (e) $A \cap \overline{A} = \phi$

   (f) $A \cup B = \{0, 2, 4, 5, 6, 7, 8\}$

   (g) $\overline{A \cup B} = \{1, 3\}$

2. Suppose $A_1 = \{a,b,c,d,e\}$, $A_2 = \{d,e,f\}$ and $A_3 = \{e,f,g,h\}$.

   (a) $\displaystyle\bigcup_{i=1}^{3} A_i = \{a, b, c, d, e, f, g, h\}$

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