1. The choices for problem number 6 from the book are given below.
   a. $\{2\}$
   b. $\{1, 2, 4\}$
   c. $\{3, 5, 6, 7, 8\}$
   d. $\{1, 2, 4, 5, 6, 8\}$
   e. $\{1, 2, 3, 4, 5, 6, 7, 8\}$

2. The choices for problem number 8 from the book are given below.
   a. $\{2, 4\}$
   b. $\{1, 2, 3, 4, 6, 8\}$
   c. $\{1, 2, 6\}$
   d. $\{5, 8\}$
   e. $\{2\}$

3. The choices for problem number 22 part a from the book are given below.
   a. $\{2\}, \{4\}, \{6\}$
   b. $\{2\}, \{4\}, \{6\}, \{2, 4\}, \{2, 6\}$
   c. $\{2\}, \{4\}, \{6\}, \{2, 4\}, \{4, 6\}, \{2, 6\}$
   d. $\{2\}, \{4\}, \{6\}, \{2, 4\}, \{4, 6\}, \{2, 6\}, \{2, 4, 6\}$
   e. $\{2\}, \{4\}, \{6\}, \{2, 4\}, \{4, 6\}, \{2, 6\}, \{2, 4, 6\}, \{\varnothing\}$

4. The choices for problem number 30 from the book are given below.
   a. $E \cap F$
   b. $\left(E \cap F^{C}\right) \cup \left(F \cap E^{C}\right)$
   c. $\left(E \cap F^{C}\right) \cap \left(F \cap E^{C}\right)$
   d. $\left(E \cup F^{C}\right) \cap \left(F \cup E^{C}\right)$
   e. $E \cup F$

5. The choices for problem number 32 from the book are given below.
   a. $\left(E^{C} \cup F^{C}\right)^{C} \cap G$
   b. $\left(E^{C} \cup F^{C}\right) \cap G$
   c. $\left(E \cap F\right)^{C} \cup G$
   d. $\left(E^{C} \cup F^{C}\right)^{C} \cap G$
   e. $\left(E \cup F\right)^{C} \cap G$

Use the following information for question 6 and 7.
An experiment consists of tossing a coin 4 times.
6. List the event of getting two heads.
   a. $E = \{\{HHTT\}, \{TTHH\}\}$

b. E = {{TTHH},{THTH},{THHT},{HTTH},{HTHT},{HHTT}
c. E = {{HTHT},{THTH}}
d. E = {{HHTT},{HTTH},{THTH}}
e. E = {{THHT}, {HTTH}

7. How many outcomes have only three heads?
   a. 4
   b. 3
   c. 8
   d. 1
   e. 16

Use the following information for question 5 and 6.
An experiment consists of selecting a letter at random from the letters in the word *MATHEMATICS* and observing the outcomes.

8. What is an appropriate sample space for this experiment?
   a. S = {M, T, H, C, S}
   b. S = {A, E, I}
   c. S = {M, A, T, H, E, I, C, S}
   d. S = {MM, AA, TT, H, E, I, C, S}
   e. S = {M, T, H}

Use the following information for question 9 and 10.
An experiment consists of tossing a pair of dice and observing the numbers that are on the uppermost surface of each die.

9. Describe the event of rolling at least one 5.
   a. E = {(1,5), (2,5), (3,5), (4,5), (5,5), (6,5)}
   b. E = {(1,5), (2,5), (3,5), (4,5), (5,5), (6,5), (5,1), (5,2), (5,3), (5,4), (5,6)}
   c. E = {(1,5), (2,5), (3,5), (4,5), (6,5), (5,1), (5,2), (5,3), (5,4), (5,6)}
   d. E = {(5,5)}
   e. E = {(1,5), (2,5), (3,5), (4,5), (5,5), (6,5)}

10. Describe the event of rolling a sum of the numbers uppermost is 4.
    a. E = {(1,3), (2,2), (3,1)}
    b. E = {(1,4), (2,4), (3,4), (4,4), (5,4), (6,4)}
    c. E = {(4,1), (4,2), (4,3), (4,5), (4,6)}
    d. E = {(1,1), (1,2), (1,3), (2,1), (2,2), (3,1)}
    e. E = {(1,4), (2,4), (3,4), (4,4), (5,4), (6,4), (4,1), (4,2), (4,3), (4,5), (4,6)}