

Fully-Worked Solutions

PRACTICE 11

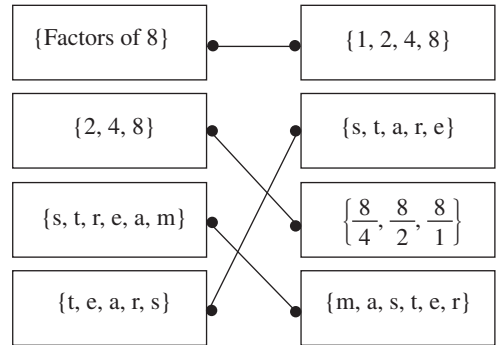
Section A

- $M = \{2, 3, 5\}$
 $n(M) = 3$
Answer: C
- Answer: C
- Answer: B
- $S = \{14, 23, 32, 41\}$
 $T = \{23, 32, x, 14\}$
 $\therefore x = 41$
Answer: C
- Number of elements = 4
Possible number of subsets
 $= 2^4$
 $= 16$
Answer: D
- $\xi = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$
 $Z = \{1, 2, 5\}$
Answer: A
- $\xi = \{1, 2, 3, 4, 6, 7\}$
 $Y = \{1, 2, 3, 6\}$
 $Y' = \{4, 7\}$
Answer: A
- $\xi = \{1, 2, 3, \dots, 20\}$
 $n(\xi) = 20$
 $A = \{1, 2, 4, 5, 10, 20\}$
 $n(A) = 6$
 $n(A') = 20 - 6 = 14$
Answer: C
- $n(P) = 6, n(Q) = 3,$
 $n(R) = 4, n(R') = 6$
Answer: D
- Answer: A
- Answer: C

Section B

- $A \not\subset B$
 - $M \subset N$
 - $S \not\subset T$
 - $X \not\subset Y$

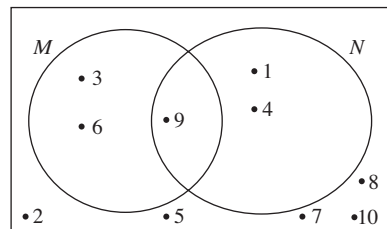
2 (a)



- ✓
 - ✗
 - ✗
 - ✓
- Empty set
 - Not an empty set
 - Empty set
 - Not an empty set

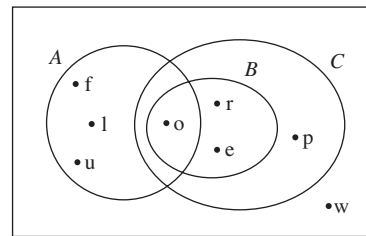
Section C

- $n(F) = 7$
 - $G = \{-2, -1, 0, 1, 2, 3\}$
 $n(G) = 6$
 - $n(H) = 21$
 - $\xi = \{2, 3, 4, 5, 6, 7, 8\}$
 $U = \{2, 4, 6, 8\}$
 $V = \{3, 5, 7\}$
 $W = \{2, 4, 6, 8\}$
 $X = \{2, 3, 5, 7\}$
 - $U' = V$
 - $U = W$
 - $V \subset X$
 - $M = \{3, 6, 9\}$
 $N = \{1, 4, 9\}$
 - ξ



- 2 (a) $\{ \}, \{t\}, \{i\}, \{g\}, \{a\}, \{t, i\}, \{t, g\}, \{t, a\}, \{i, g\}, \{i, a\}, \{g, a\}, \{t, i, g\}, \{t, i, a\}, \{t, g, a\}, \{i, g, a\}, \{t, i, g, a\}$
- (b) $X = \{32, 33, 34, 35, 36, 37, 38, 39\}$
 $X' = \{30, 31, 40\}$
- (c) (i) $\xi = \{0, 1, 3, 4, 5, 7, 8, 9\}$
(ii) $E = \{1, 3, 4, 7\}$
(iii) $F = \{0, 3, 8\}$

(d) (i)



(ii) $n(A') = 4$