

1. Which of the following are well-defined sets?

- (a) All the colors in the rainbow.
- (b) All the points that lie on a straight line.
- (c) All the honest members in the family.
- (d) All the consonants of the English alphabet.
- (e) All the tall boys of the school.
- (f) All the efficient doctors of the hospital.
- (g) All the hardworking teachers in a school.
- (h) All the prime numbers less than 100.
- (i) All the letters in the word GEOMETRY.

2. Let $A = \{a, b, c, d, e, f\}$. Insert the appropriate symbol \in or \notin in the blank space.

- (a) d ___ A
- (b) y ___ A
- (c) m ___ A
- (d) a ___ A
- (e) e ___ A
- (f) x ___ A

3. Write the following sets in the set builder form.

- (a) $A = \{2, 4, 6, 8\}$
- (b) $B = \{3, 9, 27, 81\}$
- (c) $C = \{1, 4, 9, 16, 25\}$
- (d) $D = \{1, 3, 5, \dots\}$
- (e) $E = \{4, 6, 8, 9, 10, 12, 14, 15, 16, 18, 20, \dots, 52\}$
- (f) $F = \{-10, \dots, -3, -2, -1, 0, 1, 2, \dots, 5\}$

$$(g) G = \{O\}$$

$$(h) P = \{ \}$$