Problem 8b.

Let
$$A = \{c, d, f, g\} B = \{f, j\}$$
 and $C = \{d, g\}$.

Give reasons for your answers.

Is
$$C \subseteq A$$
?

Yes, C is contained in A since every element in C is also an element of A.

Problem 12a.

Let
$$S = \{2, 4, 6\}$$
 and $T = \{1, 3, 5\}$.

Use the set-roster notation to write each of the following sets and indicate the number of elements that are in each set.

$$S \times T = \{(2,1), (4,1), (6,1), (2,3), (4,3), (6,3), (2,5), (4,5), (6,5)\}\$$

 $S \times T$ has 9 elements