1. Given that f is an isometry, and $m\overline{AB} = 4$ and $m\angle ABC = 40°$

What can you conclude?

2. Given that f is an isometry such that $f(A) = D$, and $m\overline{AB} = 4$, $m\overline{DE} = 7$, $m\overline{DF} = 4$

What can you conclude?

3. Given that f is an isometry such that $f(A) = D$ and $m\angle ABC = 40°$ and $m\angle FDE = 40°$

What can you conlcude?

4. I want to use theorem 1 to prove that $\overrightarrow{DE} = \overrightarrow{DF}$. Give an example of givens that would let you prove this.

5. I want to use theorem 2 to prove that $C=D$. Give an examples of givens that would let you prove this

List of statements to use in the problems to the right:

1) The function f is an isometry
2) $\overline{AB} \cong \overline{DE}$
3) $\overline{BC} \cong EF$
4) $\angle ABC \cong \angle DEF$
5) $f(A) = D$
6) $f(B) \in \overrightarrow{DE}$
7) $f(C)$ and F are on the same side of $\overleftrightarrow{DE}$
8) $\overline{f(A)f(B)} = \overline{Df(B)}$
9) $\overline{AB} \cong \overline{f(A)f(B)}$
10) $\overline{BC} \cong \overline{f(B)f(C)}$
11) $\angle ABC \cong \angle f(A)f(B)f(C)$
12) $\overline{DE} \cong \overline{Df(B)}$
13) $f(B) = E$
14) $\overline{f(B)f(C)} = \overline{Ef(C)}$
15) $\overline{Ef(C)} \cong \overline{EF}$
16) $\angle f(A)f(B)f(C) = \angle DEf(C)$
17) $\angle DEf(C) \cong \angle DEF$
18) $\overrightarrow{Ef(C)} = \overrightarrow{EF}$
19) $f(C) = F$

For each line number, tell which of the other line numbers are needed to prove it. If there is insufficient information to prove it, say what else is needed.

A. line 8

B. line 10

C. line 11

D. line 12

E. line 13

F. line 15

G. line 17

H. line 18

I. line 19