Answers to MEEG 2003 Test IIId

1.

FBD for entire frame: ②

VDD with a strategy for finding D_x: ②

$\mathbf{D}_x = 23.5 \text{ kN} \rightarrow$ ②

VDD with a strategy for finding M_A: ②

$\mathbf{M}_A = 54 \text{ kN·m} \circlearrowleft$ ②

2.

FBD for member *ABC* without pins at *A*, *B*, and *C*: ②

FBD for member *BDF* with a pin at *B*: ①

FBD for entire frame without a pin at *A*: ①

$\mathbf{A} = 12\mathbf{i} + 9\mathbf{j} \text{ kN}$ ②

$\mathbf{B} = -31.5\mathbf{i} - 8\mathbf{j} \text{ kN}$ ②

$\mathbf{C} = 19.5\mathbf{i} - \mathbf{j} \text{ kN}$ ②

3.

A. (*g*)

B. (*d*)

C. (*f*)

D. (*a*)

4. See text.