Example No. 1
Use the exhibit provided to answer the following question.


## PROFILE



## TYPICAL CROSS SECTION

A farmer is excavating a ditch to drain an existing field. Using the given profile and typical cross section, calculate the quantity of excavated material.
A. $1,145 \mathrm{cy}$
B. $1,242 \mathrm{cy}$
C. $1,251 \mathrm{cy}$
D. $1,287 \mathrm{cy}$

## Example No. 2

A portion of a USGS map with a scale of $1^{\prime \prime}=2,000$ is to be enlarged by a factor of 5 (a $500 \%$ enlargement). What is the scale ratio of the new map?
A. $\quad 1: 400$
B. $1: 4,800$
C. $1: 10,000$
D. $1: 120,000$

Example No. 3
A portion of a roadway is being staked as a circular curve from Point $X(B C)$ to Point $Y$ (EC). If the straight distance from Point X to Point Y is 460 ft and the central angle of the survey is $45^{\circ}$, what is the length of the curve?
A. $\quad 460 \mathrm{ft}$
B. $\quad 472 \mathrm{ft}$
C. $\quad 544 \mathrm{ft}$
D. $\quad 601 \mathrm{ft}$

