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**DEPARTMENT: CIVIL ENGINEERING**

**LEVEL: 200**

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**COURSE: ENG 281; ENGINEERING MATHEMATICS**

**=** =

As h0, = 1

= , =1

=

=

As h = h

= = 1

= =

= ,

= = -1

Therefore, 1

1. F(x) = at intervals [4,8]

=

=

=, as h

= 0 (i)

=, as h

From equations (i) and (ii), f(x) = f(4). Therefore, f(x) is continuous at 4.

And, =

= as h,

= = 2 (iii)

=

= as h = 2. (iv)

From equations (iii) and (iv),

f(x) = f(8). Thus, f(x) is continuous at 8