

PROBLEM

Sketch the graph of $y = f(x)$ such that

$$\lim_{x \rightarrow 3^-} f(x) = 2 \quad \text{and} \quad \lim_{x \rightarrow 3^+} f(x) = 2.$$

Is f continuous at $x = 3$? Explain.

LESSON 1.8 B

INTERMEDIATE VALUE THEOREM

INTERMEDIATE VALUE THEOREM

If f is continuous on $[a, b]$ and k is any number between $f(a)$ and $f(b)$, then there must exist a c in $[a, b]$ such that $f(c) = k$.

PROBLEM

Use the IVT to show that

$f(x) = x^3 + x + 1$ passes through

the x -axis somewhere in $[-1, 0]$.

PROBLEM 1/3

True/False/Discuss

You were once exactly 3 feet tall.

PROBLEM 2/3

True/False/Discuss

At some time since you were born, your weight in pounds equaled your height in inches.

PROBLEM 3/3

True/False/Discuss

Along the Equator, there are two diametrically opposite sites that have exactly the same temperature at the same time.