3.2 Differentiability
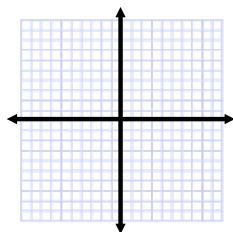
*Are you able to find a derivative?
*Is there a derivative?
*Can you find the slope at the point?
*Is there a tangent line?

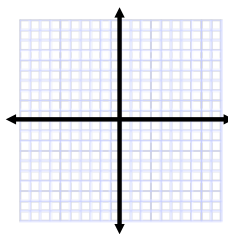Yes = Differentiable

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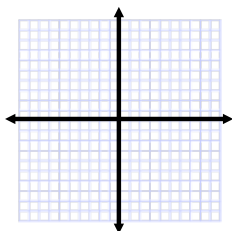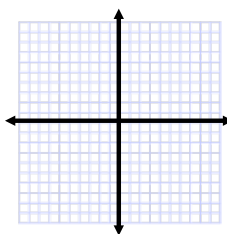There are 4 types of non-differentiability:

1. Corners

2. Cusp

3. Vertical Tangent
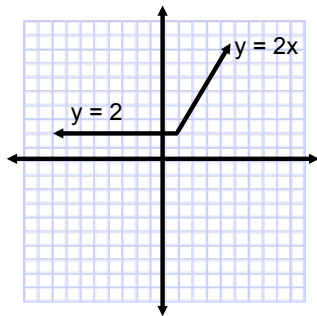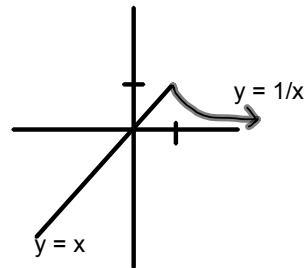
4. Discontinuity

Differentiable

1. Continuous
2. Left-hand and Right-hand derivatives (slopes) must be equal.

Differentiable?

y = 2x

y = 2

Differentiable?

y = 1/x

y = x

Differentiability Implies Continuity
If f has a derivative at x = a, then f is continuous at x = a.