

Reciprocal Identities

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Tangent & Cotangent Identities

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Pythagorean Identities

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Double-Angle Formula

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## Graphing Piece-Wise Functions

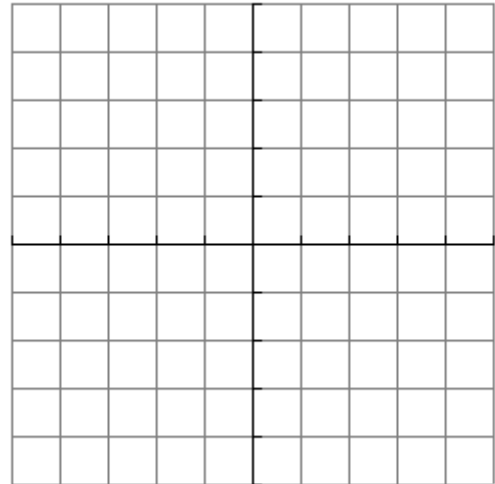
$$f(x) = \begin{cases} \text{function 1} & \text{some domain} \\ \text{function 2} & \text{some domain} \\ \text{function 3} & \text{some domain} \end{cases}$$

Remember...  $f(x) = y$  domain: set of all  $x$ -values

| Domain<br>$x$ | Function<br>$y$ |
|---------------|-----------------|
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Example 1:

$$f(x) = \begin{cases} 2x^2 & x > -1 \\ 3x - 1 & x \leq -1 \end{cases}$$



Example 2:

$$g(x) = \begin{cases} \frac{1}{2}x & x < -2 \\ 3 & -2 \leq x \leq 1 \\ x^2 & x > 1 \end{cases}$$

