

Piece-wise.

Graph the following.

1. $f(x) = \begin{cases} -x & x \leq 0 \\ x & x > 0 \end{cases}$

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

3. $f(x) = \begin{cases} x^3 & x < 1 \\ \sqrt{x} & x \geq 1 \end{cases}$

4. $f(x) = \begin{cases} 3x-1 & x < 2 \\ 6 & x \geq 2 \end{cases}$

5. $f(x) = \begin{cases} |x+2|-1 & x < -3 \\ -(x+1)^2 & -3 \leq x < 2 \\ x-3 & x \geq 2 \end{cases}$

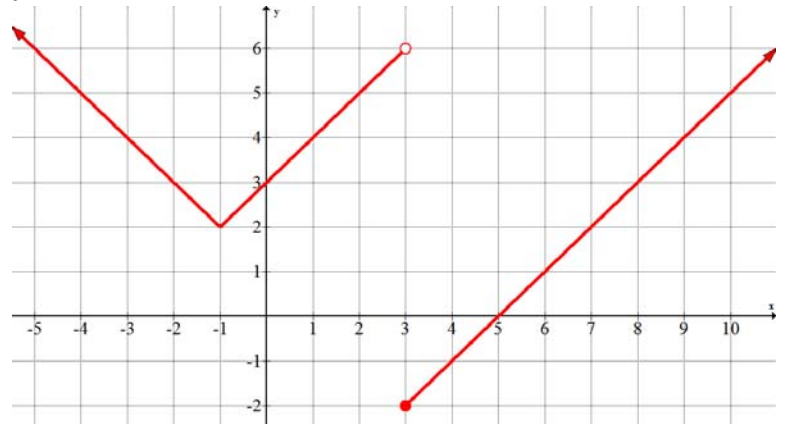
6. $f(x) = \begin{cases} x-2 & x < -3 \\ -(x+1)^2 & -3 \leq x < 2 \\ \sqrt{x-1}+2 & x \geq 2 \end{cases}$

7. $f(x) = \begin{cases} \frac{1}{x-2}+3 & x < 1 \\ \sqrt{x+2}-3 & x \geq 1 \end{cases}$

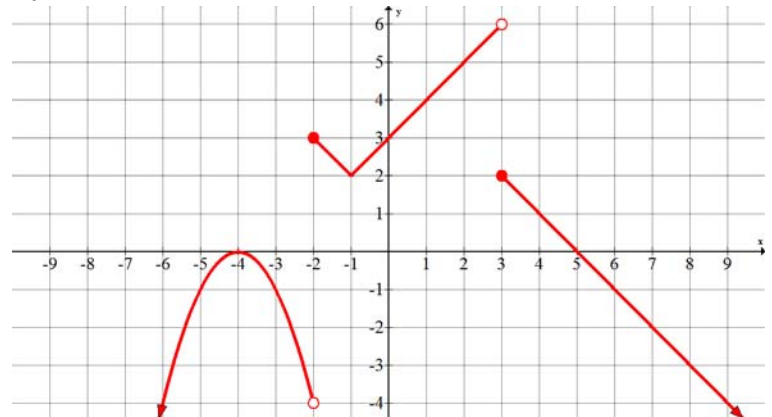
8. $f(x) = \begin{cases} (x+1)^2-1 & x \leq 0 \\ \frac{-1}{(x-1)^2}+2 & x > 0 \end{cases}$

Determine the piece-wise equation that produces the following graphs.

9.



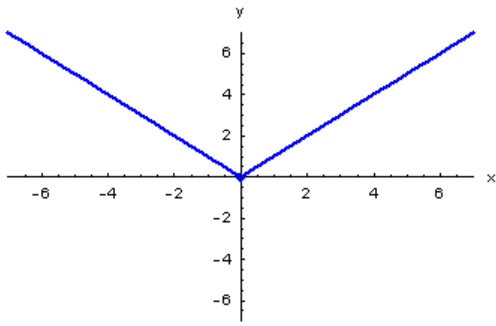
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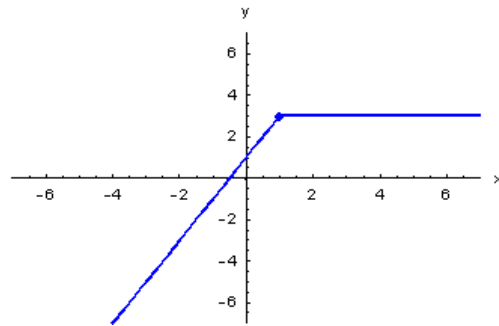
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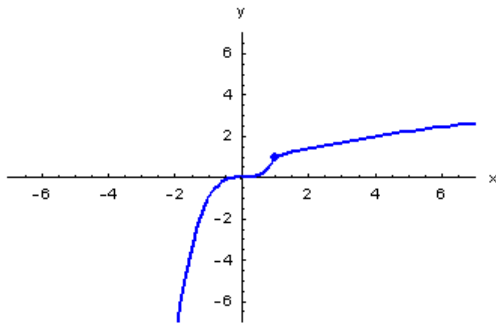
1.



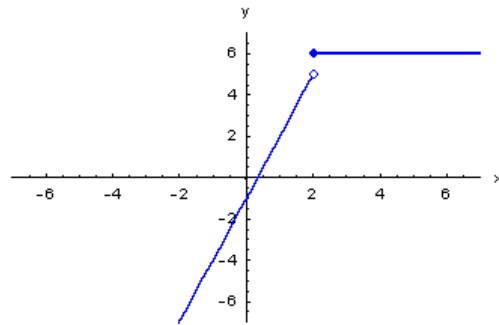
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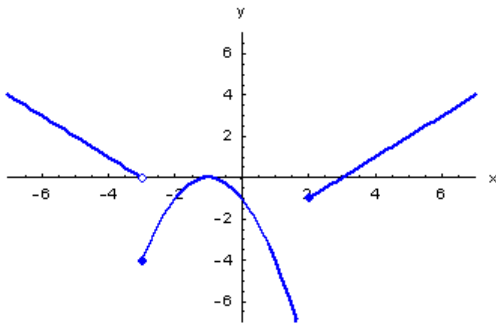
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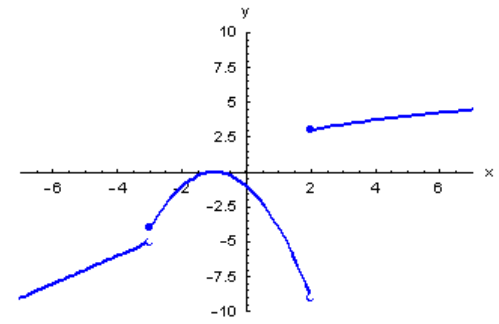
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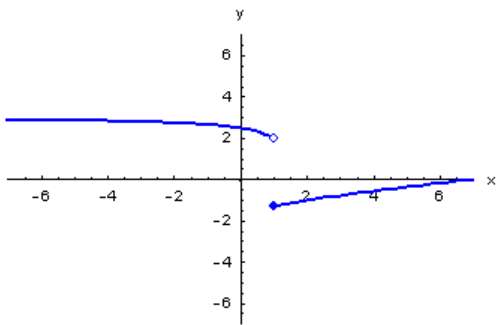
5.



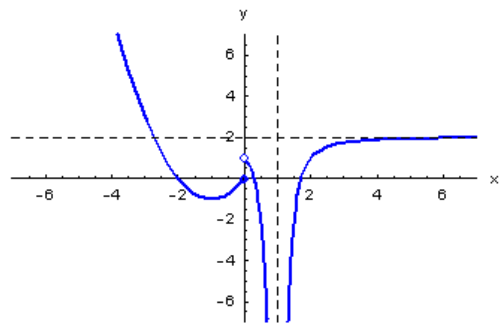
6.



7.



8.



9.

$$f(x) = \begin{cases} |x+1|+2 & x < 3 \\ x-5 & x \geq 3 \end{cases}$$

10.

$$f(x) = \begin{cases} -(x+4)^2 & x < -2 \\ |x+1|+2 & -2 \leq x < 3 \\ -x+5 & x \geq 3 \end{cases}$$

11.

$$f(x) = \begin{cases} \sqrt[3]{x-1}+1 & x < 3 \\ -|x-4| & 3 \leq x < 5 \\ x-2 & x \geq 5 \end{cases}$$