AB Q101: Practice Exam Problems

Part I.
A. Write the function without the absolute value symbol (put into piecewise format)
B. Graph the function.
C. State the domain and range.

1. $f(x) = 4 - |1 - x|$

2. $g(x) = \begin{cases} \dfrac{|x+1|}{x+1}; & x \neq -1 \\ 3; & x = -1 \end{cases}$

3. $h(x) = \begin{cases} 4 + |x-2|; & x > 0 \\ 4; & -2 < x \leq 0 \\ x + 6; & x < -2 \end{cases}$

4. $f(x) = \begin{cases} \ln(x-2); & x > 3 \\ |x-3|; & x < 3 \end{cases}$

Part II.
A. Graph the function.
B. Indicate the coordinates of any key points and clearly label any asymptotes.
C. Write the limit statement(s) that expresses any asymptote.

5. $g(x) = \dfrac{10(x+1)^2}{(x-2)^2(x+3)^2}$

6. $h(x) = \dfrac{x^2 - 1}{x^2 - 9}$

7. $h(x) = \dfrac{x-2}{x(x-1)}$

Part III. State the domain of each function using interval notation.

8. $f(x)=\dfrac{\sqrt{x-2}}{\sqrt{7-x}}$

9. $g(x)=\dfrac{2x}{x^2-3x-28}$

10. $h(x)=\dfrac{\ln(x+3)}{4-(x+1)^2}$

11. $p(x)=\dfrac{\cot x}{\sqrt{-x}}$

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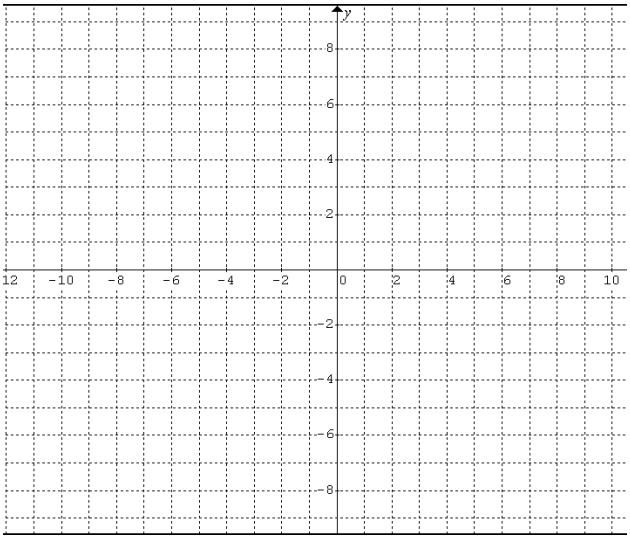
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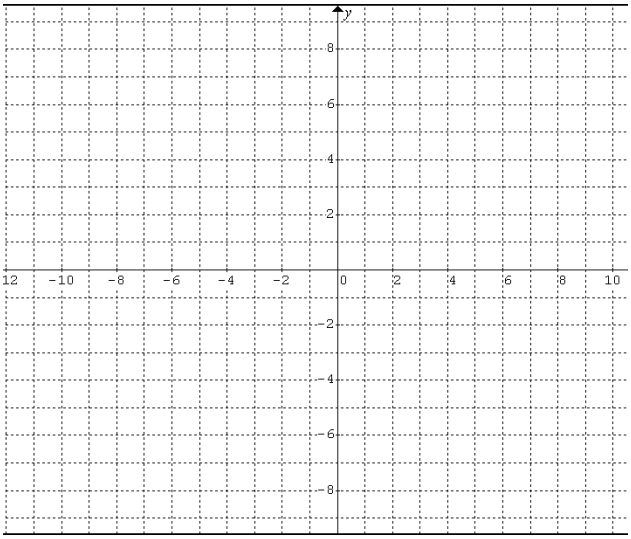
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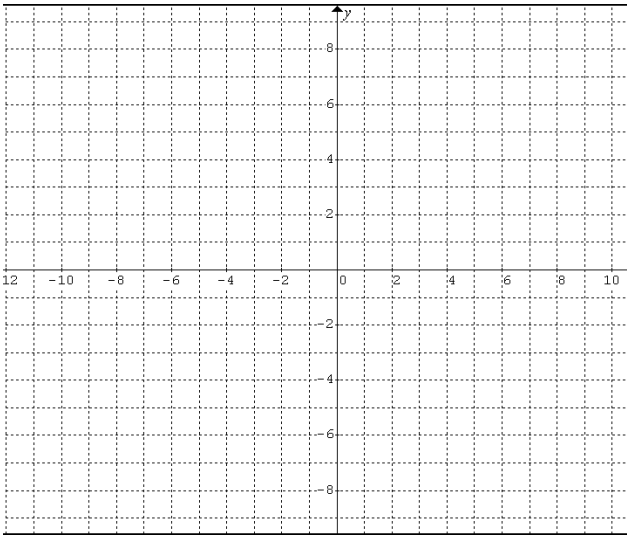
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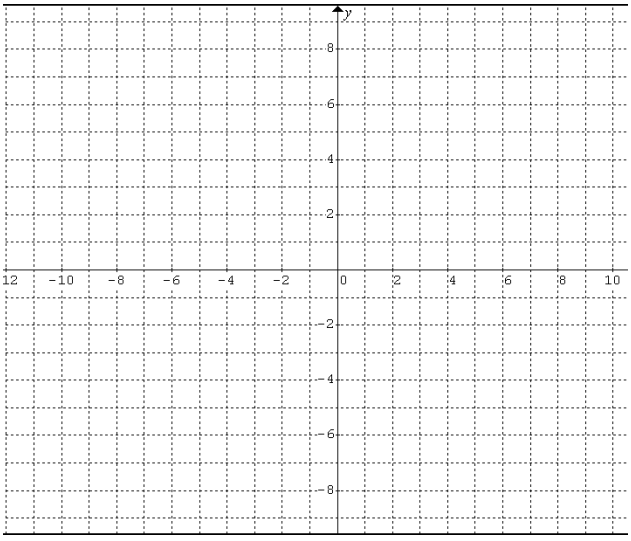
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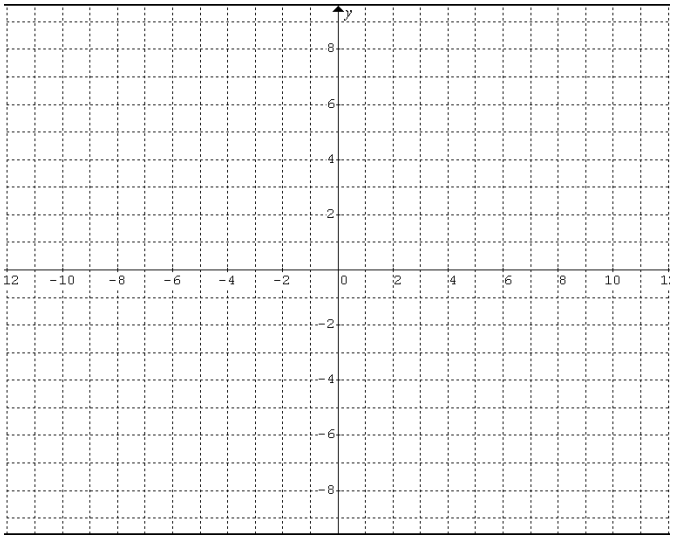
5. 
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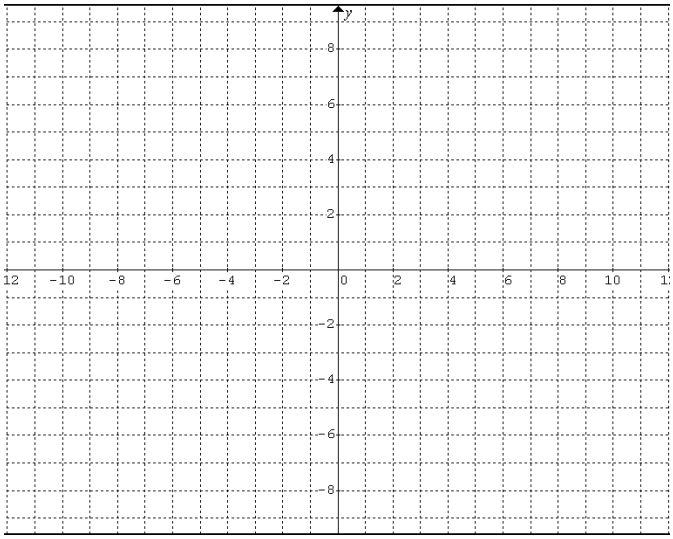
6. 
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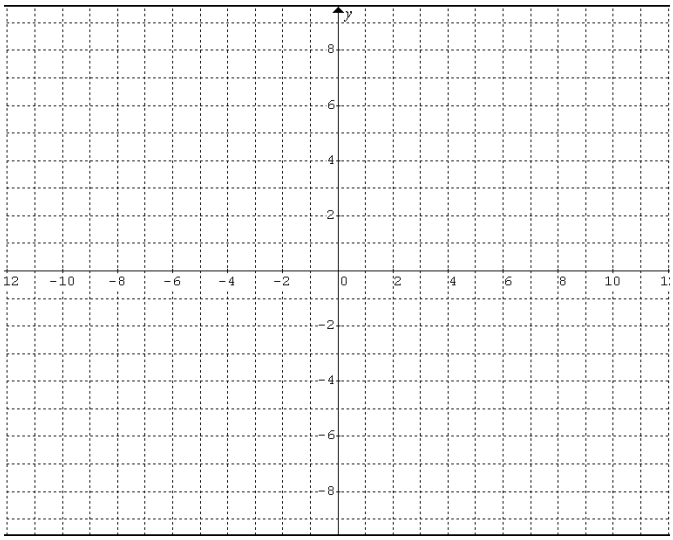
7. 
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