

Piecewise Functions

Date _____ Period _____

Sketch the graph of each function.

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

$$2) g(x) = \begin{cases} \frac{|x|}{2}, & x \leq -4 \\ \sqrt{x+2}, & -4 < x < 1 \\ -2, & x \geq 1 \end{cases}$$

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

$$4) g(x) = \begin{cases} x + 2, & x \neq 1 \\ -4 + \sqrt{x}, & x = 1 \end{cases}$$

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

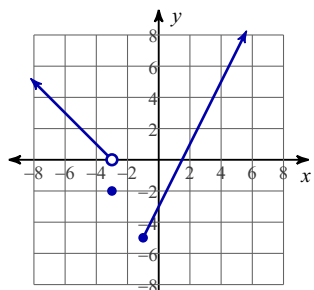
$$6) f(x) = \begin{cases} x + 2, & x \leq 2 \\ -1, & x \geq 4 \end{cases}$$

$$7) w(x) = \begin{cases} (x-2)^3, & x < 3 \\ x, & x \geq 3 \end{cases}$$

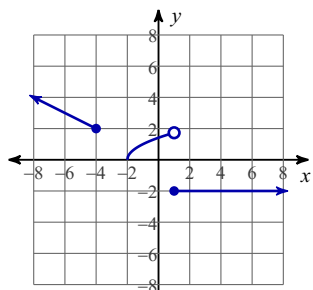
$$8) f(x) = \begin{cases} (x+2)^2, & x < -1 \\ 3, & -1 < x < 4 \\ (x-5)^3, & x > 4 \end{cases}$$

Answers to Piecewise Functions (ID: 1)

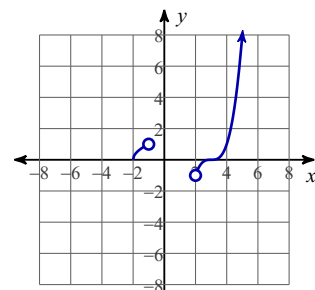
1)



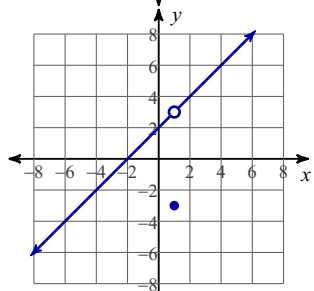
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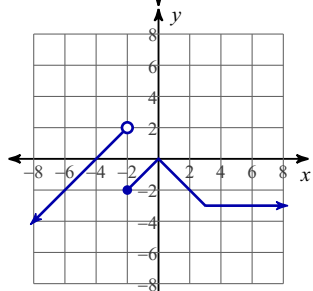
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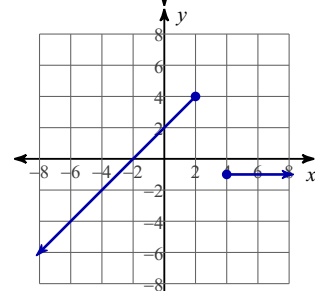
4)



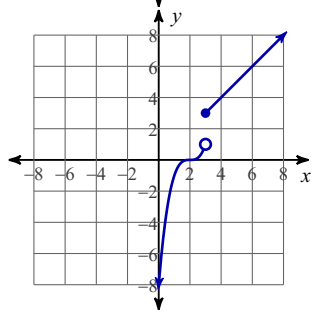
5)



6)



7)



8)

