Writing Equations for Piecewise Functions Scavenger Hunt
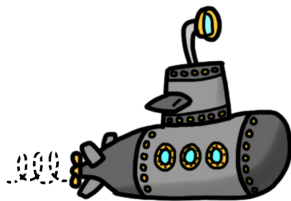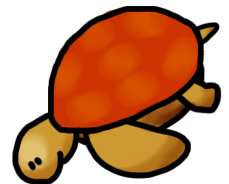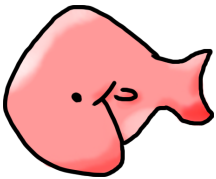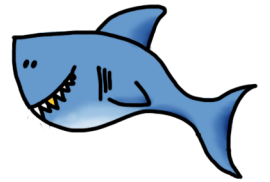
Writing Equations for Piecewise Functions Scavenger Hunt

Objective: This scavenger is a great way to get students up and moving around while practicing writing equations of piecewise functions.

Materials:
Scavenger hunt posters
Scavenger hunt student worksheet
Scavenger hunt answer key

Instructions:

1) Print each poster and hang them randomly around your classroom before class begins.

2) Review with students how to write equations for piecewise functions given a graph.

3) Place students in groups of 2 or 3 and give each group and/or student a recording sheet.

4) Tell each group to select and stand by a poster hung up around your room.

5) Tell each group to look at the graph on the bottom of their selected poster.
    Above the graph is an equation to a piecewise function from another poster in the room.

6) Tell each group to write an equation for their piecewise function on their student worksheet.

7) Instruct students to search around the room for a poster with their equation.

8) Have students record the clipart image to the bottom right of their answer. (crab, fish, shark…)
    The clipart images will allow students to tell you the order of their scavenger hunt and keep
    them on track so they don't get lost.

9) Once students find their answer, they need to write an equation for the piecewise function
    below it.

10) Students continue steps 5 through nine until they get back to the beginning of their scavenger
    hunt.

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Name_____Period_____Date_____

Piecewise Functions Scavenger Hunt

Start with any poster and look at the piecewise graph. Write an equation for the graph. Find the answer around the room and write down the clipart image next to it. Then look below the equation at a new graph. Write the equation of that graph and find its answer around the room. Continue this process until you get back to the poster you started with. You should not get the same answer for any graphs.

Equation	Clipart Image

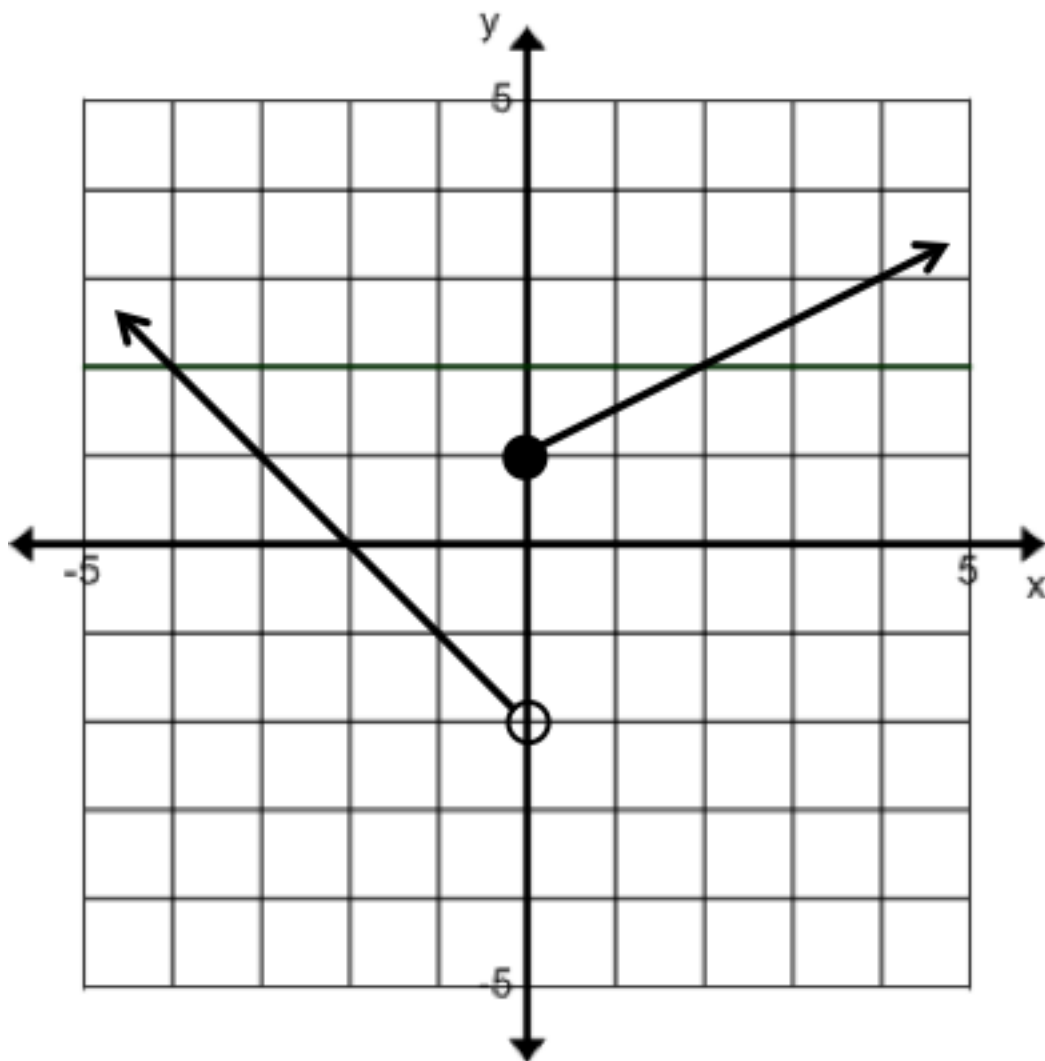| Equation	Clipart

Piecewise Function Scavenger Hung Answer Key

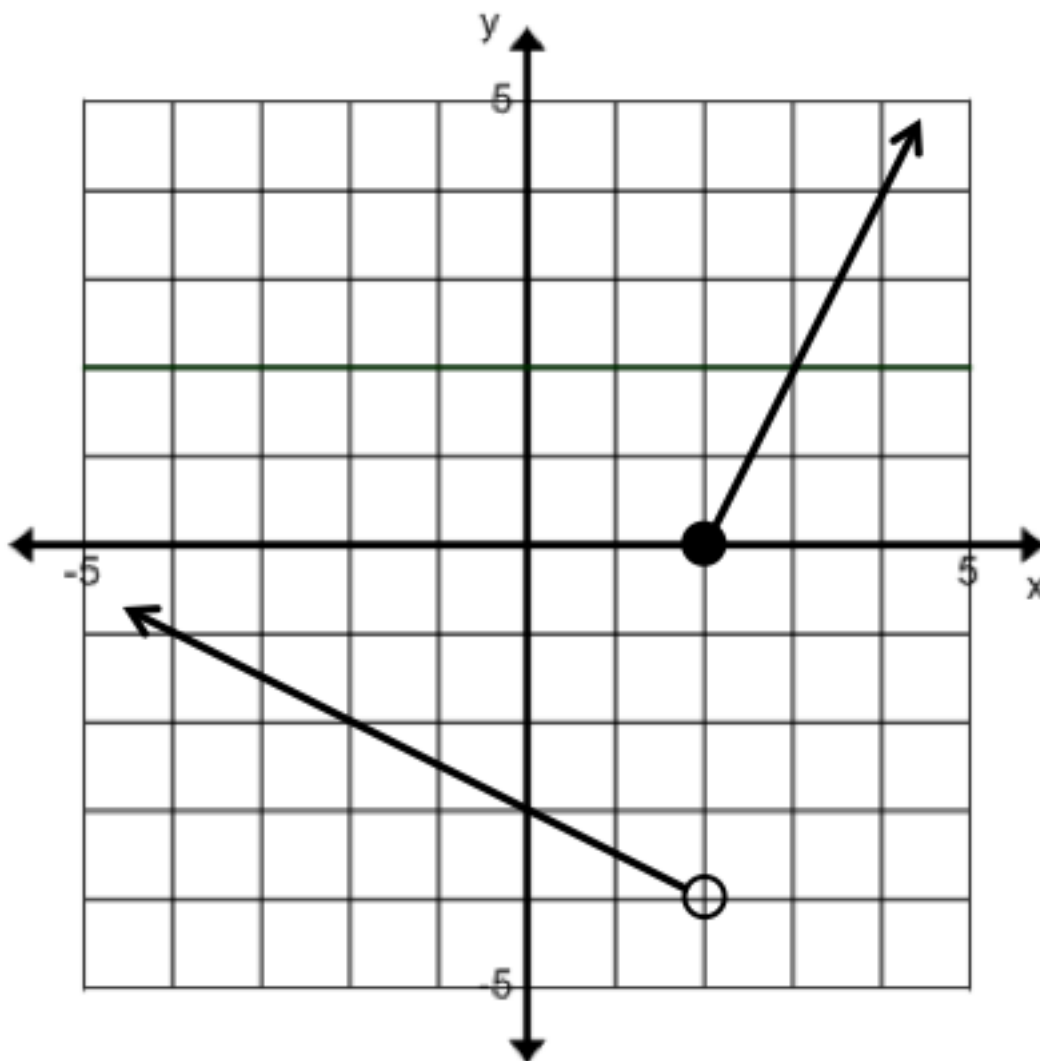Start with the first equation image each group has and check the order.

Crab

Fish

Treasure Chest

Shark

Turtle

Dolphin

Submarine

Whale

Palm tree

Jelly fish

Beach Ball
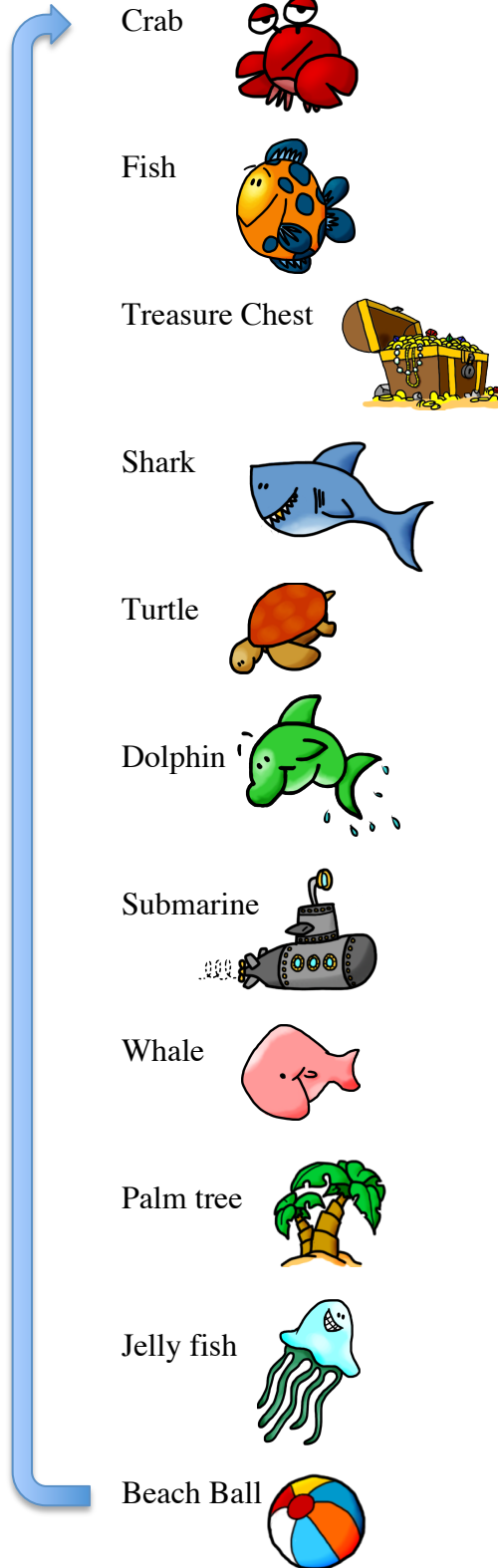
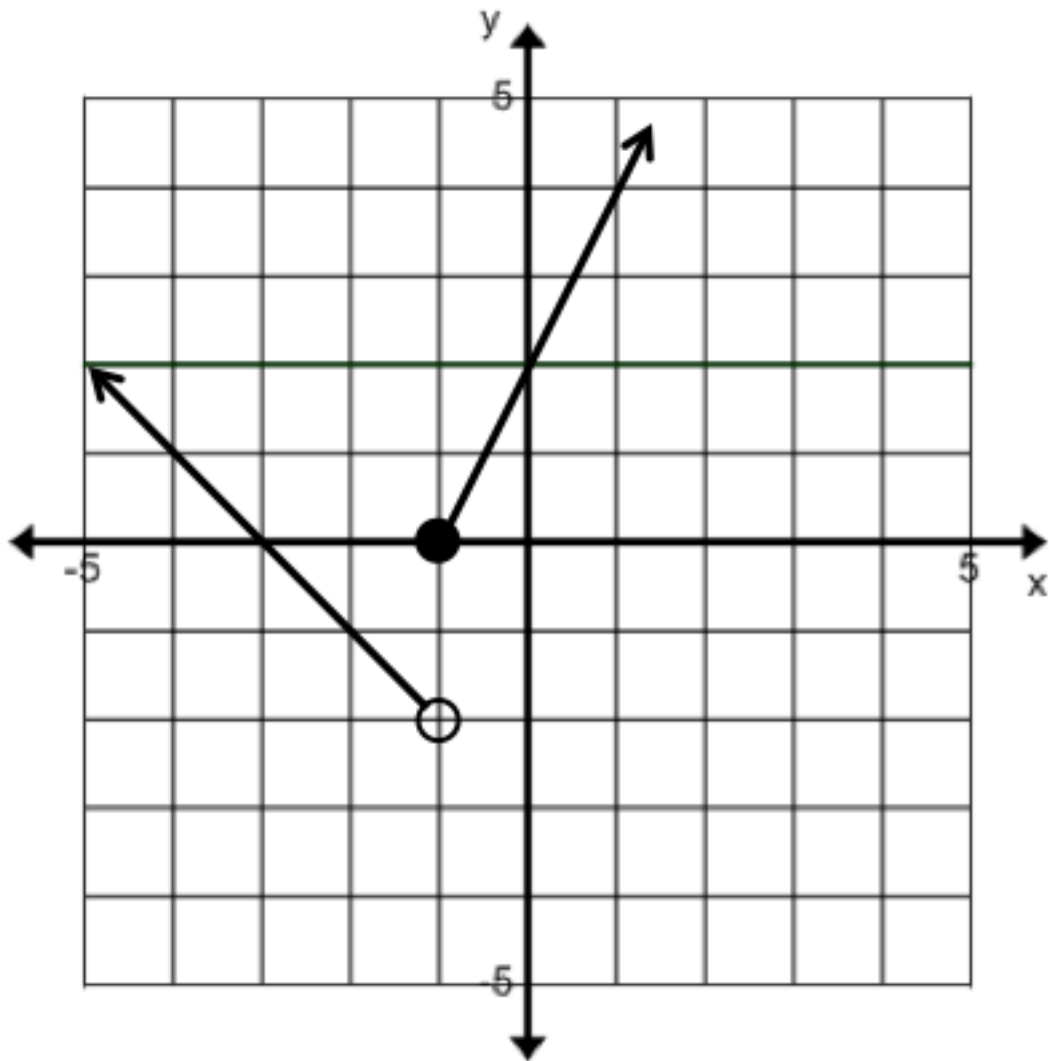$$f(x) = \begin{cases} 3x+1, & \text{if } x \le 0 \\ \dfrac{1}{2}x+2, & \text{if } x > 0 \end{cases}$$
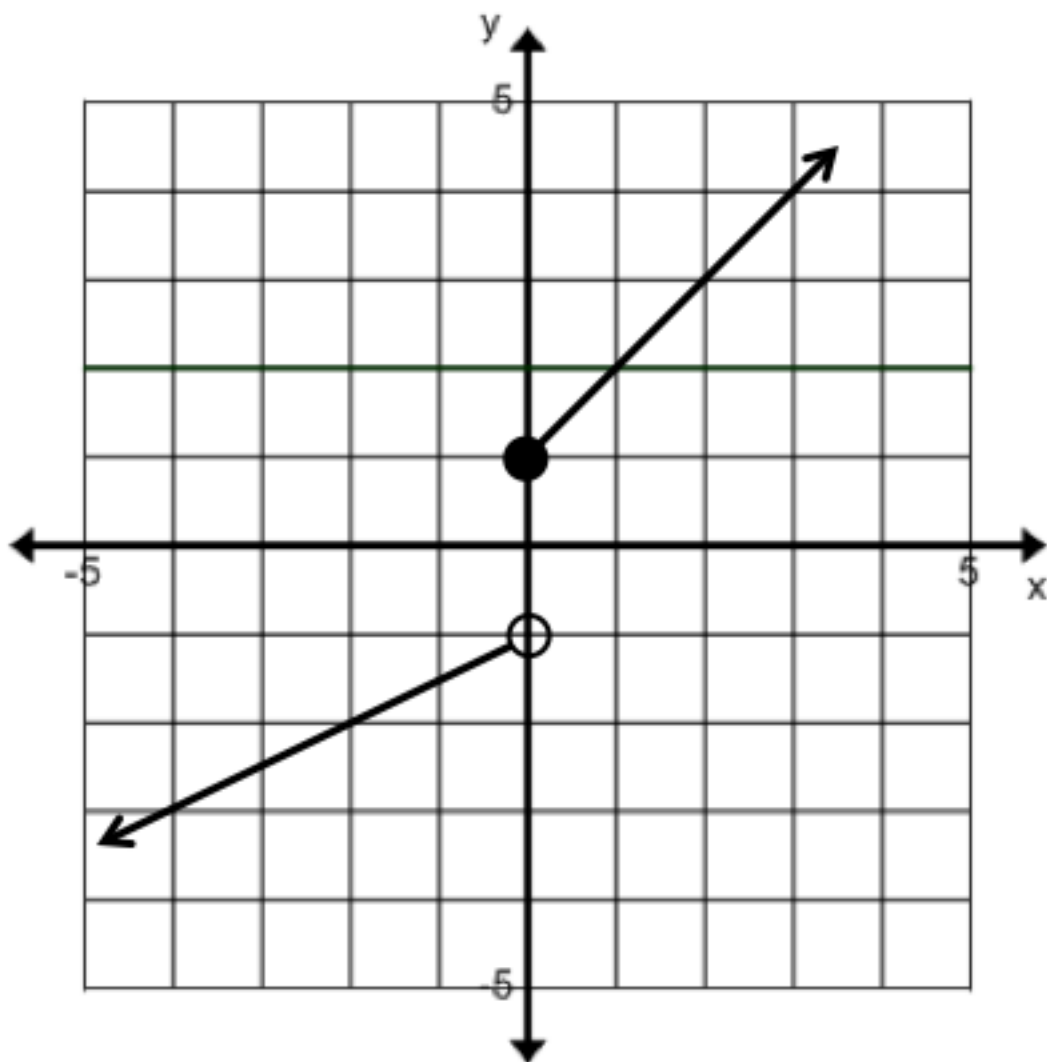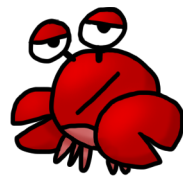
$$f(x) = \begin{cases} \dfrac{1}{2}x - 1, & \text{if } x < 0 \\[2mm] x + 1, & \text{if } x \geq 0 \end{cases}$$
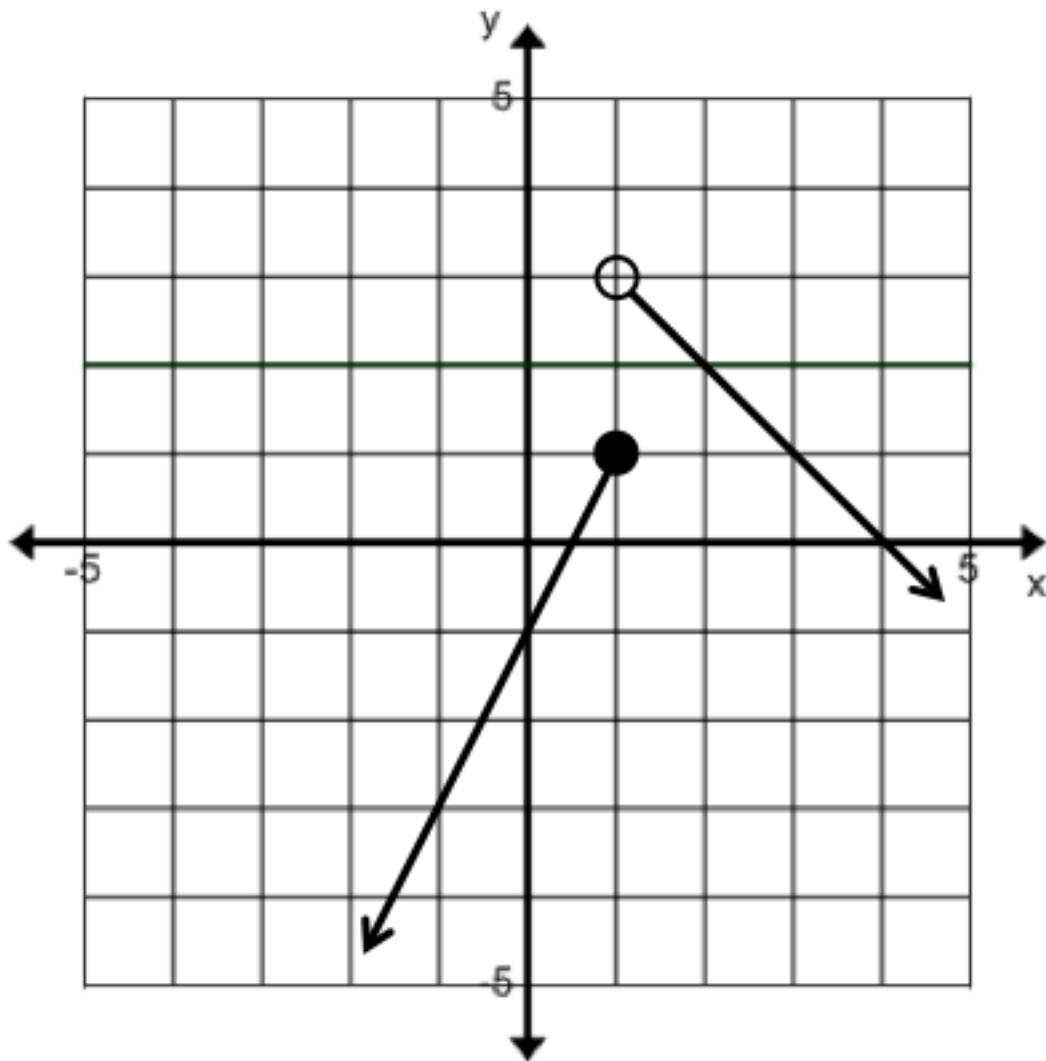
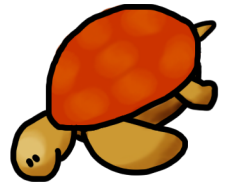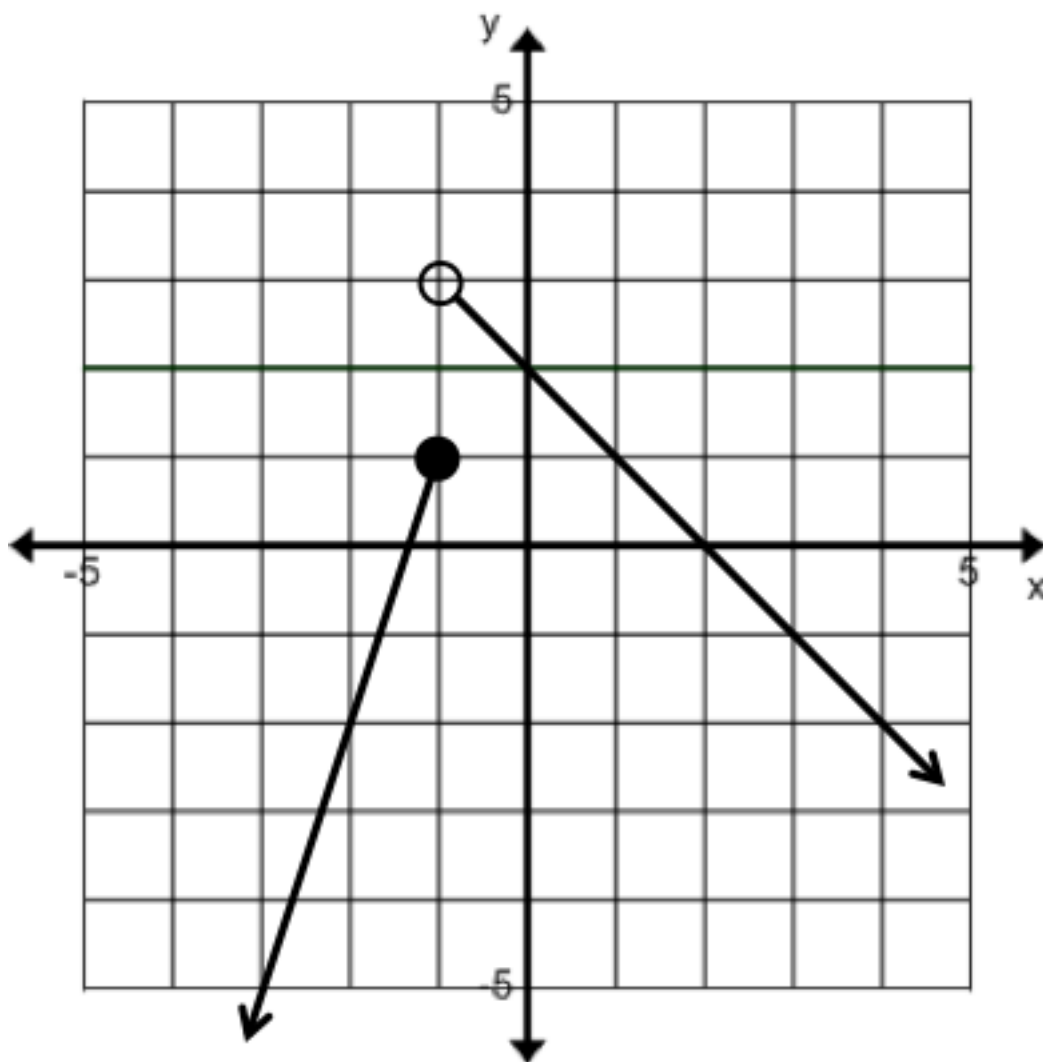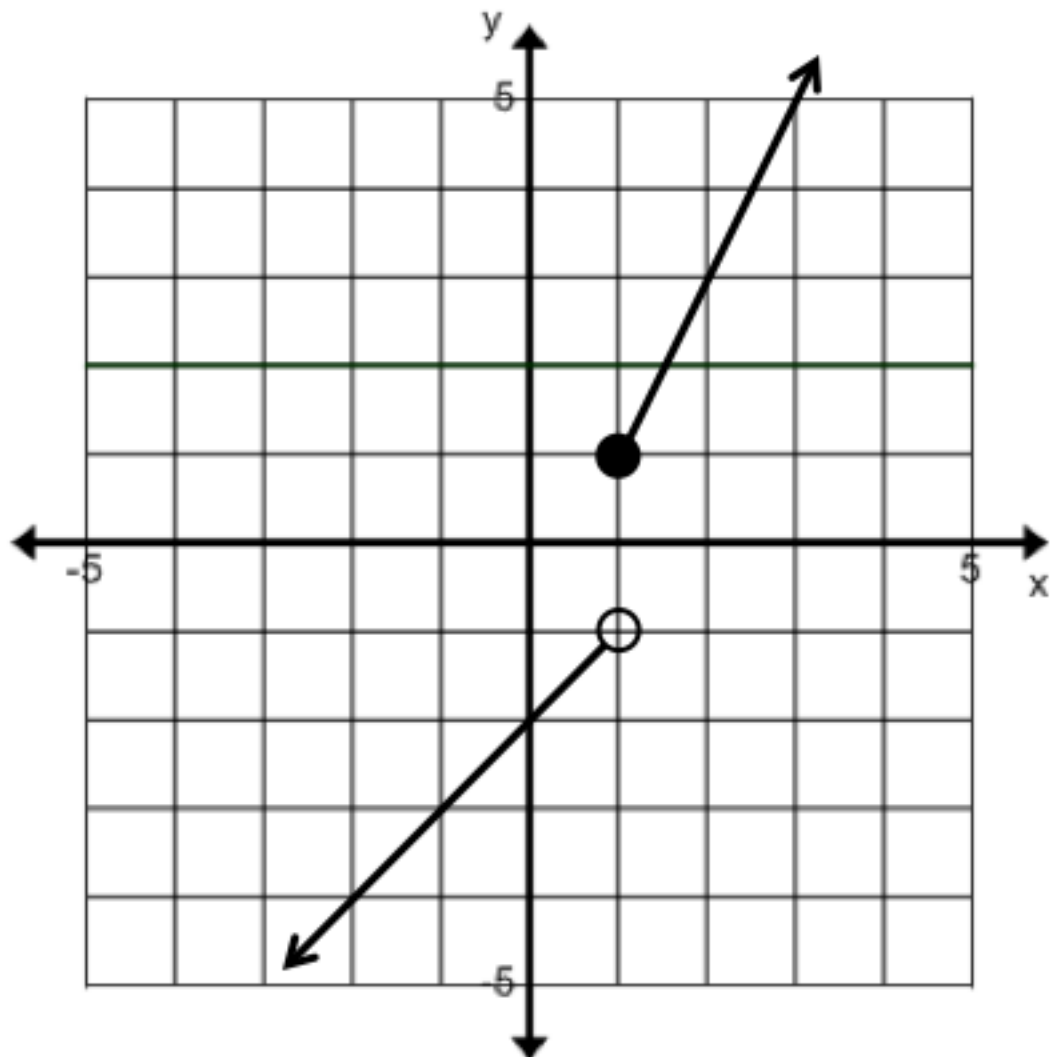$$f(x) = \begin{cases} -x - 2, & \text{if } x < 0 \\ \dfrac{1}{2}x + 1, & \text{if } x \geq 0 \end{cases}$$

$$f(x) = \begin{cases} -\dfrac{1}{2}x - 3, & \text{if } x < 2 \\ 2x - 4, & \text{if } x \geq 2 \end{cases}$$
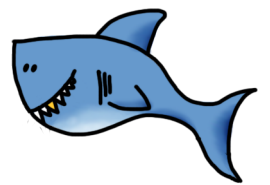
$$f(x) = \begin{cases} -x - 3, & \text{if } x < -1 \\ 2x + 2, & \text{if } x \geq -1 \end{cases}$$
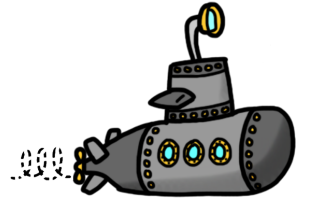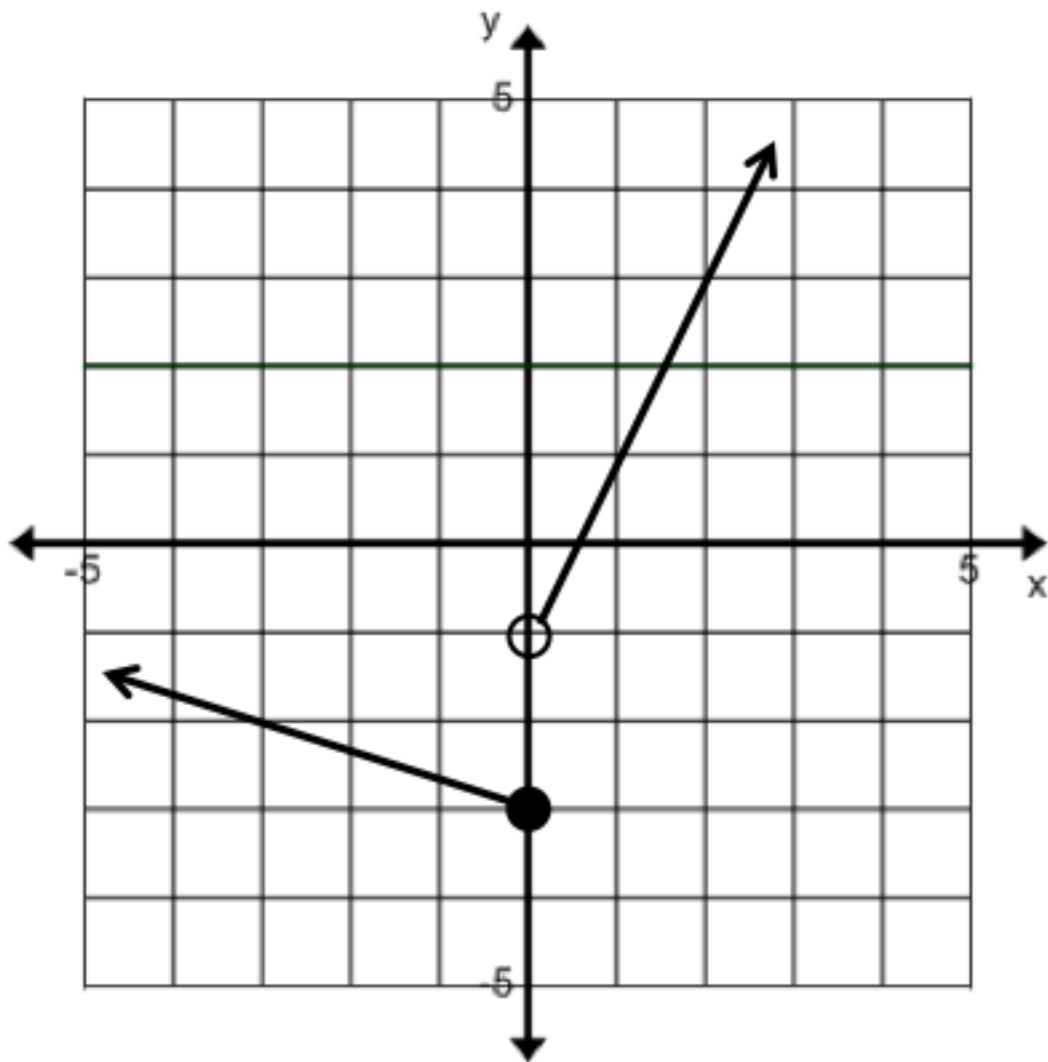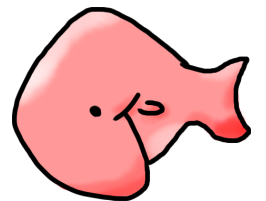
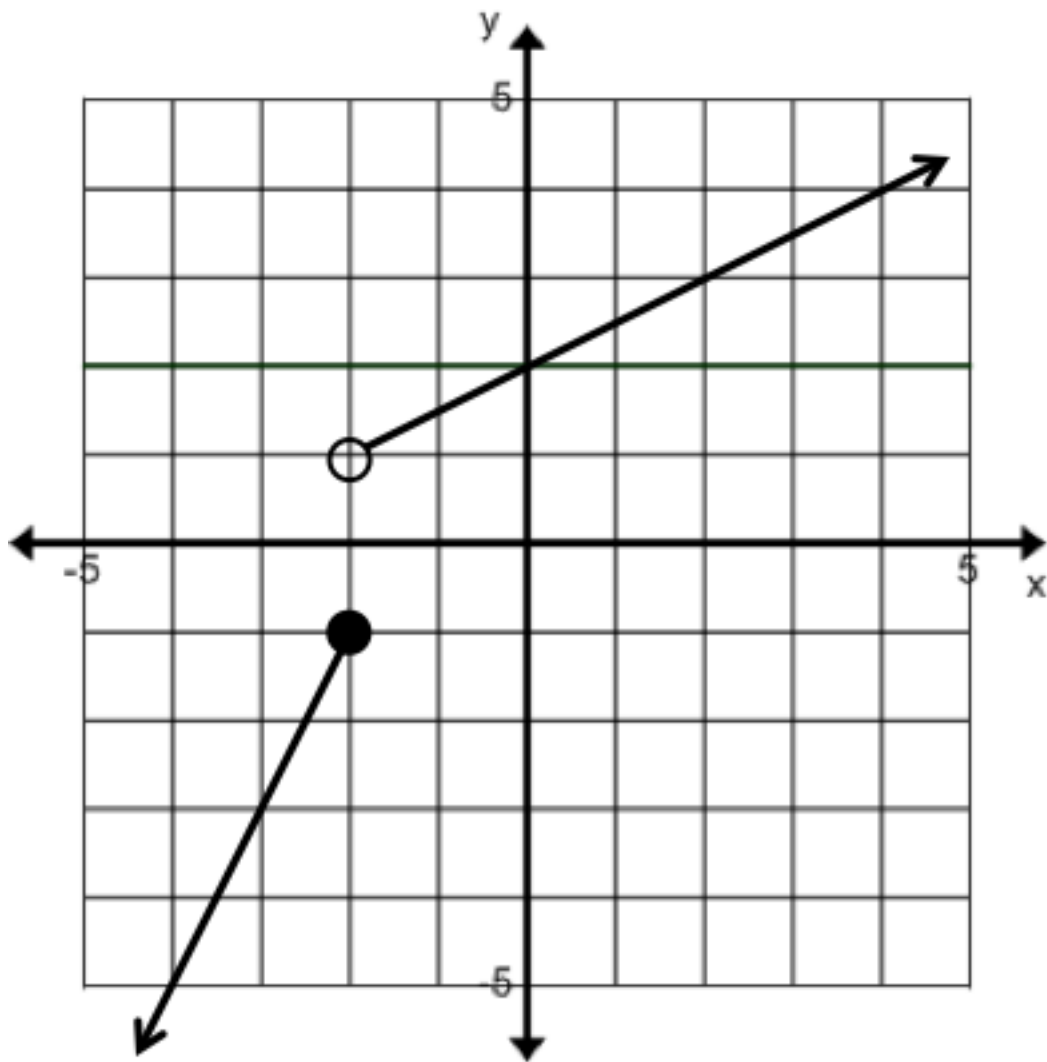$$f(x) = \begin{cases} 2x - 1, & \text{if } x \leq 1 \\ -x + 4, & \text{if } x > 1 \end{cases}$$

$$f(x) = \begin{cases} 3x + 4, & if \ x \leq -1 \\ -x + 2, & if \ x > -1 \end{cases}$$
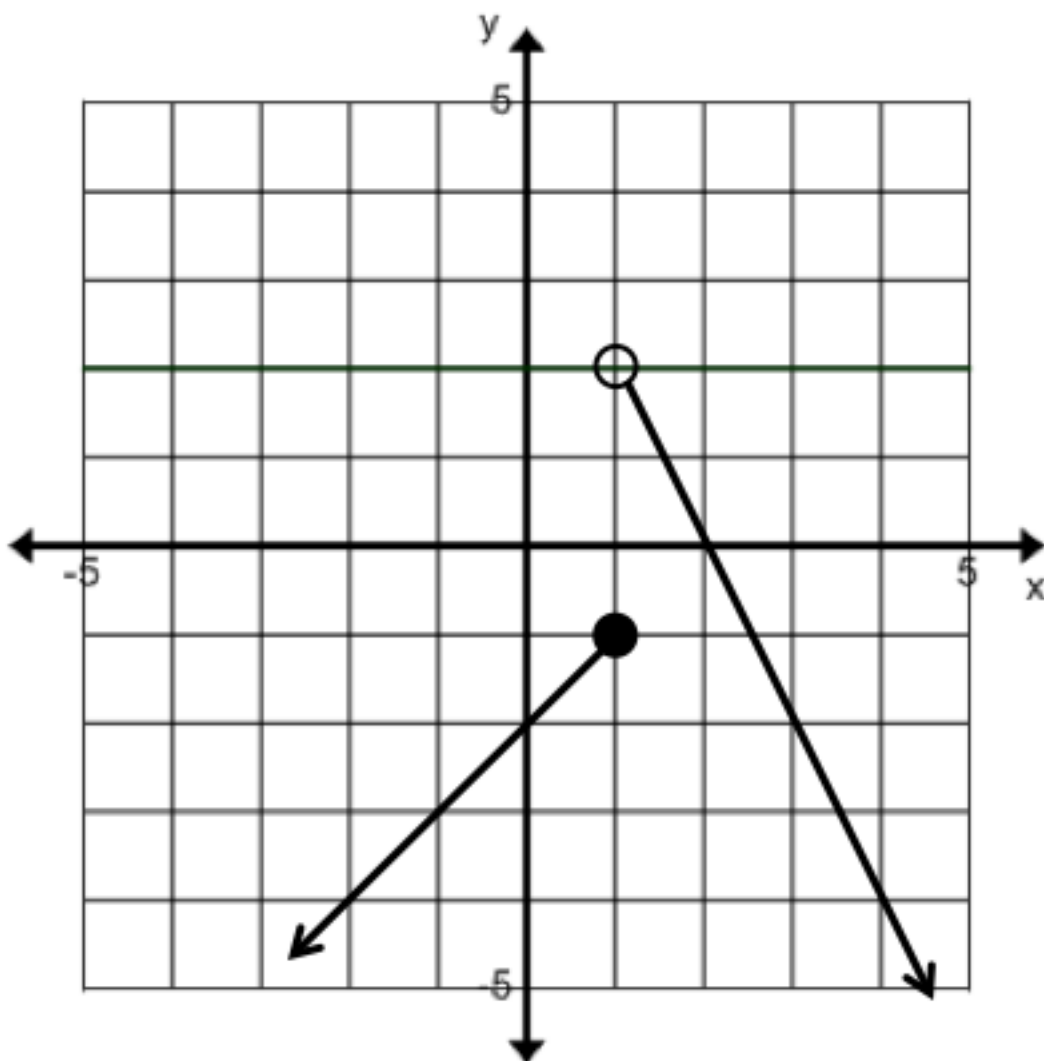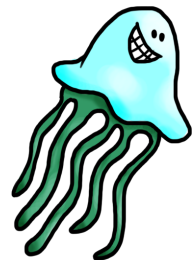
$$f(x) = \begin{cases} x - 2, & \text{if } x < 1 \\ 2x - 1, & \text{if } x \geq 1 \end{cases}$$

$$f(x) = \begin{cases} -\dfrac{1}{3}x - 3, & \text{if } x \leq 0 \\ 2x - 1, & \text{if } x > 0 \end{cases}$$

$$f(x) = \begin{cases} 2x + 3, & \text{if } x \leq -2 \\ \dfrac{1}{2}x + 2, & \text{if } x > -2 \end{cases}$$

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