Y2 Modulus Function Flipped Learning

Question 1

Determine which of the following diagrams shows a sketch of $y = |x - 4|$.
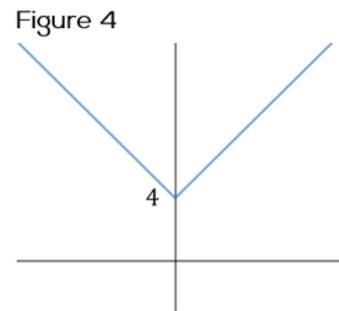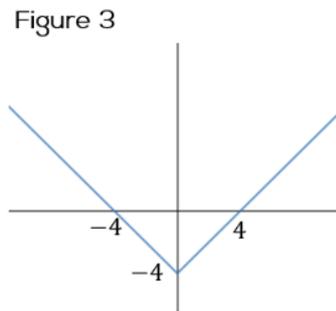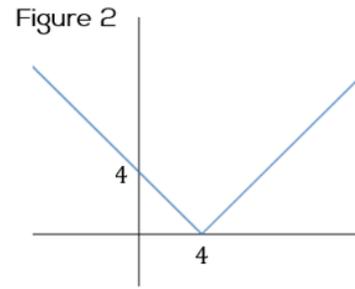

Figure 1

Figure 2

Figure 3

Figure 4

[   ] Figure 1   [   ] Figure 2   [   ] Figure 3   [   ] Figure 4

Question 2

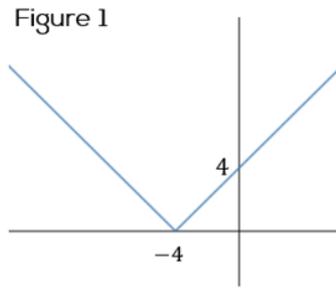Determine which of the following diagrams shows a sketch of $y = |x| + 2$.
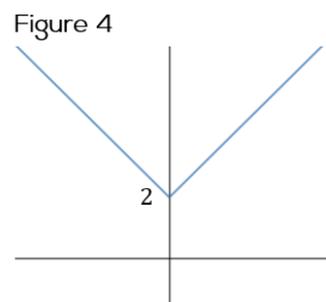

Figure 1

Figure 2

Figure 3
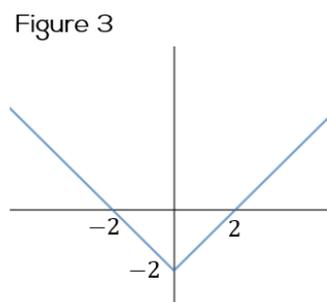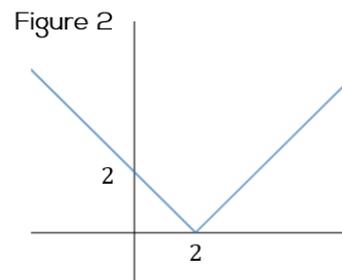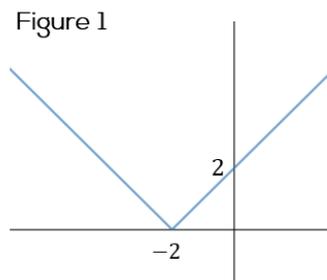
Figure 4

[   ] Figure 1   [   ] Figure 2   [   ] Figure 3   [   ] Figure 4

Question 3

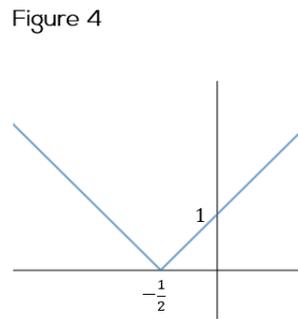Determine which of the following diagrams shows a sketch of $y = |2x + 1|$.

Figure 1

Figure 2

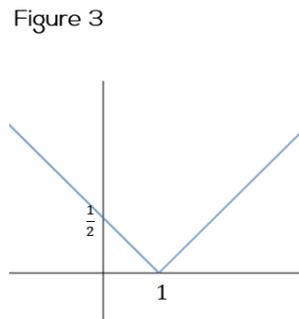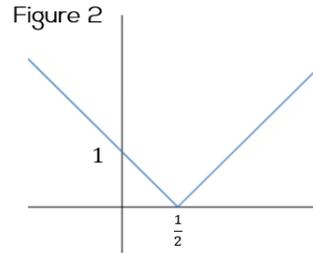Figure 3

Figure 4

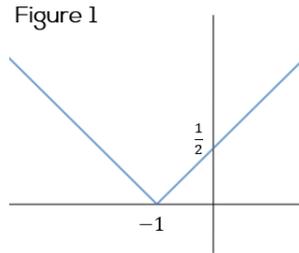[   ] Figure 1   [   ] Figure 2   [   ] Figure 3   [   ] Figure 4

Question 4

What is the range of $f(x) = |x|$

Question 5

What is the range of $f(x) = 5 - |x|$

Question 6

The functions f and g are defined by

$f: x \to 2|x| + 3, \quad x \in \mathbb{R} \quad g: x \to 3 - 4x, \quad x \in \mathbb{R}$

State the range of f.

Question 7

Figure 1

Figure 1 shows part of the graph of $y = f(x)$, $x \in \mathbb{R}$. The graph consists of two line segments that meet at the point $(1, a)$, $a < 0$. One line meets the x-axis at (3, 0). The other line meets the x-axis at (−1, 0) and the y-axis at $(0, b)$, $b < 0$.

Given that $f(x) = |x - 1| - 2$, find the value of a and the value of b.

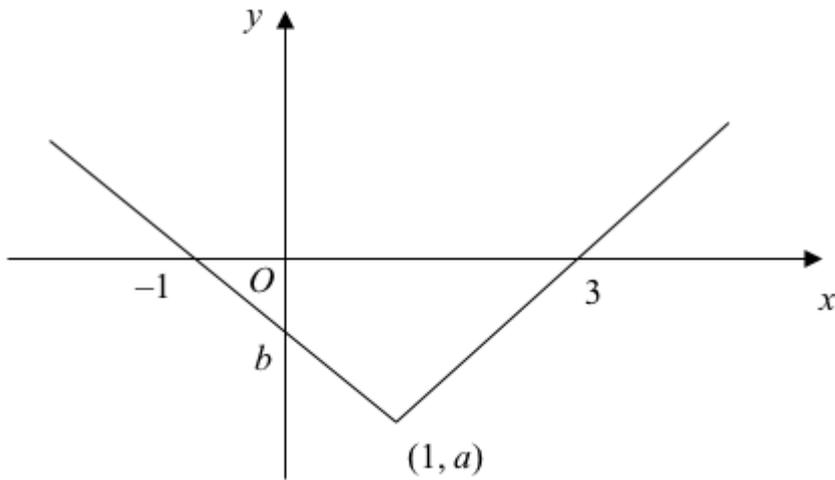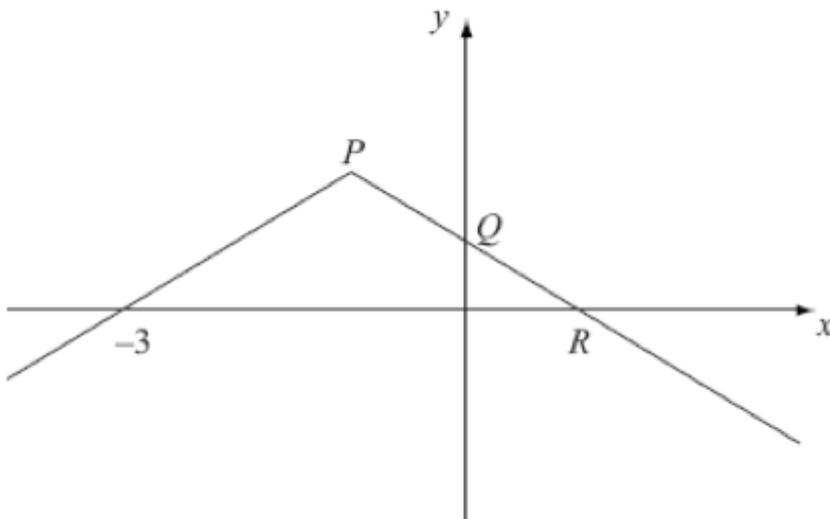# Question 8

Figure 1

Figure 1 shows the graph of $y = f(x)$, $x \in \mathbb{R}$.

The graph consists of two line segments that meet at the point P.

The graph cuts the y-axis at the point Q and the x-axis at the points (−3, 0) and R.

Given that $f(x) = 2 - |x + 1|$, find the coordinates of the points P, Q and R

Question 9

Part of the graph of $y = f(x)$ is shown below.

Find an expression for $f(x)$.

$(2, -1)$

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