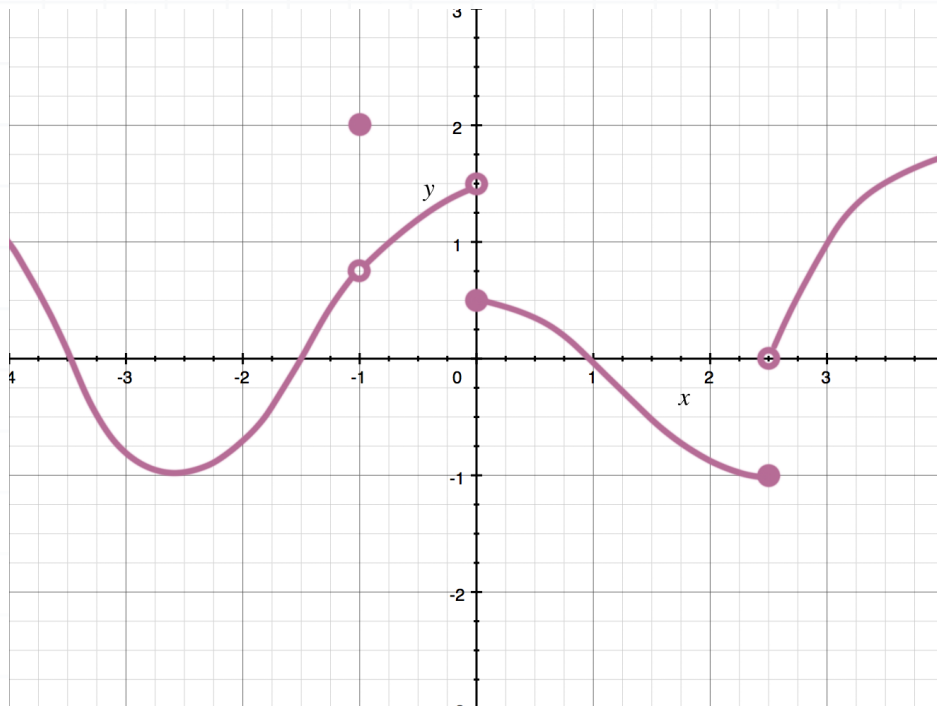**Topic**: Crazy graphs

Question: Use the graph to find the function's limit as $x \to -1^+$.

Answer choices:

A $\qquad \lim_{x \to -1^+} f(x) = 0$

B $\qquad \lim_{x \to -1^+} f(x) = 2$

C $\qquad \lim_{x \to -1^+} f(x) = \dfrac{3}{4}$

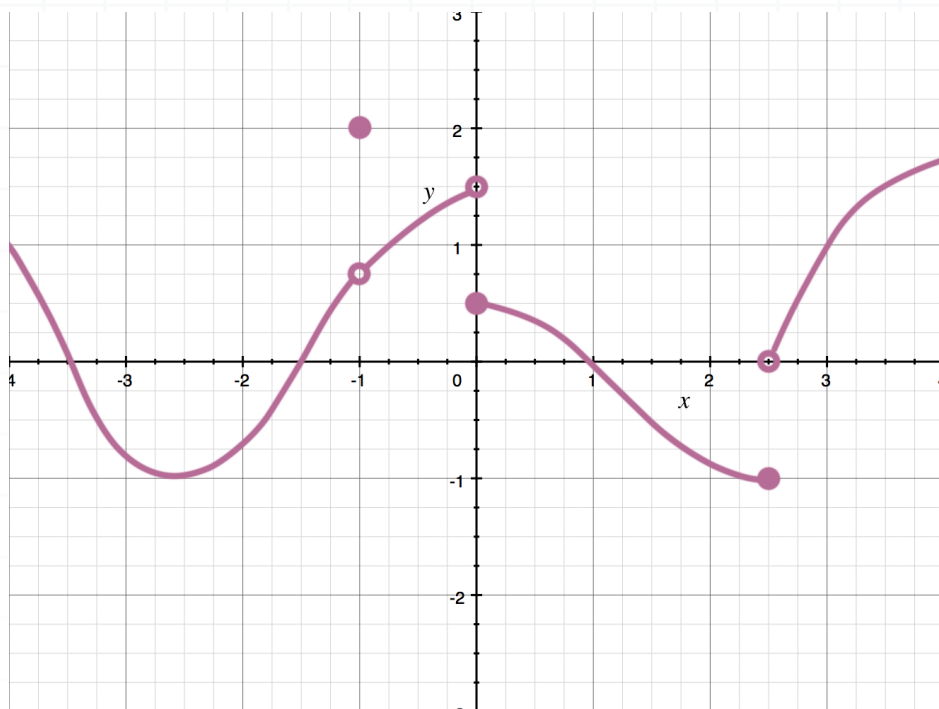D $\qquad \lim_{x \to -1^+} f(x) = \dfrac{1}{2}$

Solution: C

Using the graph, we'll look at the limit as x gets close to -1 from the right side. We can see that

$$\lim_{x \to -1^+} f(x) = \frac{3}{4}$$

Topic: Crazy graphs

Question: Use the graph to find the function's limit as $x \to 0^-$ and $x \to 0^+$.

Answer choices:

A $\qquad \lim_{x \to 0^-} f(x) = -\dfrac{1}{2} \qquad\qquad\qquad \lim_{x \to 0^+} f(x) = -\dfrac{3}{2}$

B $\qquad \lim_{x \to 0^-} f(x) = -\dfrac{3}{2} \qquad\qquad\qquad \lim_{x \to 0^+} f(x) = -\dfrac{1}{2}$

C $\qquad \lim_{x \to 0^-} f(x) = \dfrac{1}{2} \qquad\qquad\qquad\; \lim_{x \to 0^+} f(x) = \dfrac{3}{2}$

D $\qquad \lim_{x \to 0^-} f(x) = \dfrac{3}{2} \qquad\qquad\qquad\; \lim_{x \to 0^+} f(x) = \dfrac{1}{2}$

Solution: D

Using the graph, we'll look at the limit as x gets close to 0 from the left side. We can see that
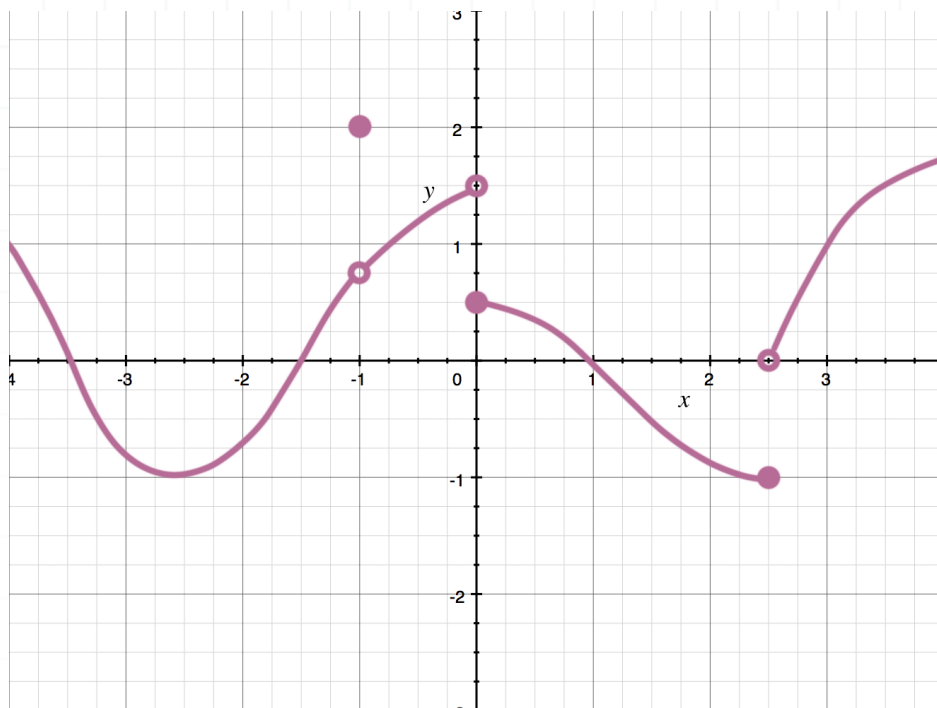
$$\lim_{x \to 0^-} f(x) = \frac{3}{2}$$

And as x gets close to 0 from the right side, we can see that

$$\lim_{x \to 0^+} f(x) = \frac{1}{2}$$

Topic: Crazy graphs

Question: Use the graph to find the function's limit as $x \to (5/2)^-$ and $x \to (5/2)^+$.

Answer choices:

A $\qquad \lim\limits_{x \to \frac{5}{2}^-} f(x) = -1 \qquad\qquad \lim\limits_{x \to \frac{5}{2}^+} f(x) = 0$

B $\qquad \lim\limits_{x \to \frac{5}{2}^-} f(x) = 0 \qquad\qquad \lim\limits_{x \to \frac{5}{2}^+} f(x) = -1$

C $\qquad \lim\limits_{x \to \frac{5}{2}^-} f(x) = 1 \qquad\qquad \lim\limits_{x \to \frac{5}{2}^+} f(x) = 0$

D $\qquad \lim\limits_{x \to \frac{5}{2}^-} f(x) = 0 \qquad\qquad \lim\limits_{x \to \frac{5}{2}^+} f(x) = 1$

Solution: A

Using the graph, we'll look at the limit as x gets close to $5/2$ from the left side. We can see that

$$\lim_{x \to \frac{5}{2}^-} f(x) = -1$$

And as x gets close to $5/2$ from the right side, we can see that

$$\lim_{x \to \frac{5}{2}^+} f(x) = 0$$