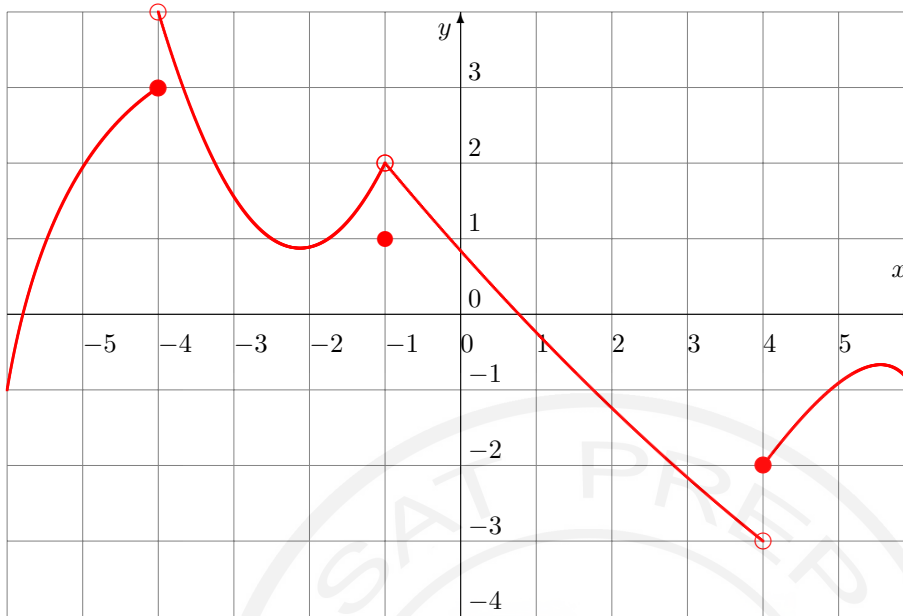


Assignment :Discontinuity

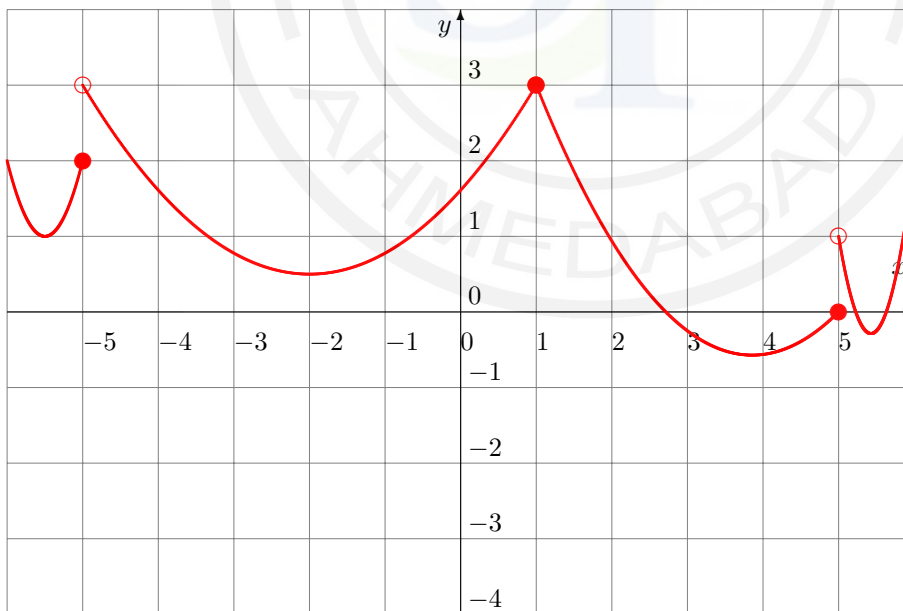
1. Consider the following function defined by its graph:



Find the following limits:

- a)  $\lim_{x \rightarrow -1^-} f(x)$     b)  $\lim_{x \rightarrow -1^+} f(x)$     c)  $\lim_{x \rightarrow -1} f(x)$     d)  $\lim_{x \rightarrow -4} f(x)$     e)  $\lim_{x \rightarrow 4} f(x)$

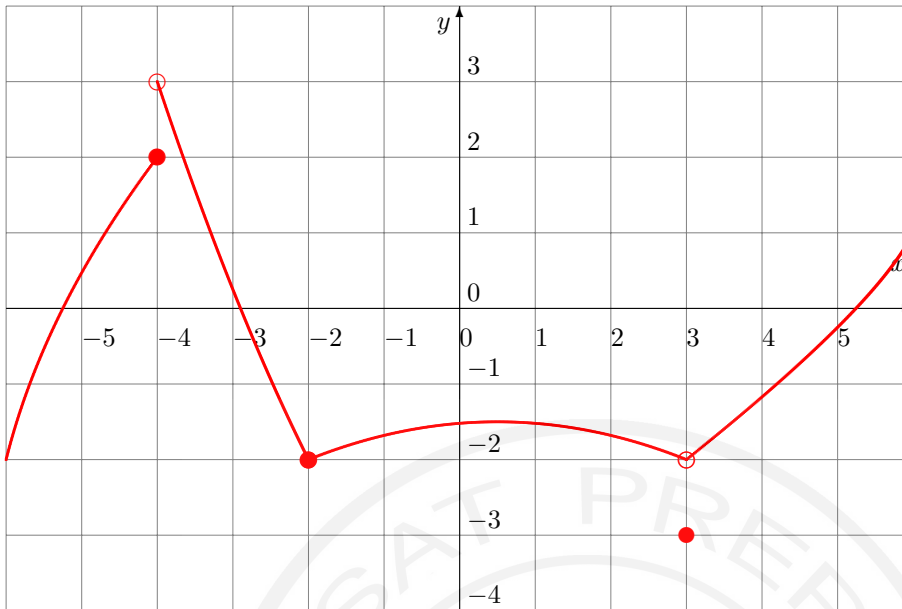
2. Consider the following function defined by its graph:



Find the following limits:

- a)  $\lim_{x \rightarrow 1^-} f(x)$     b)  $\lim_{x \rightarrow 1^+} f(x)$     c)  $\lim_{x \rightarrow 1} f(x)$     d)  $\lim_{x \rightarrow -5} f(x)$     e)  $\lim_{x \rightarrow 5} f(x)$

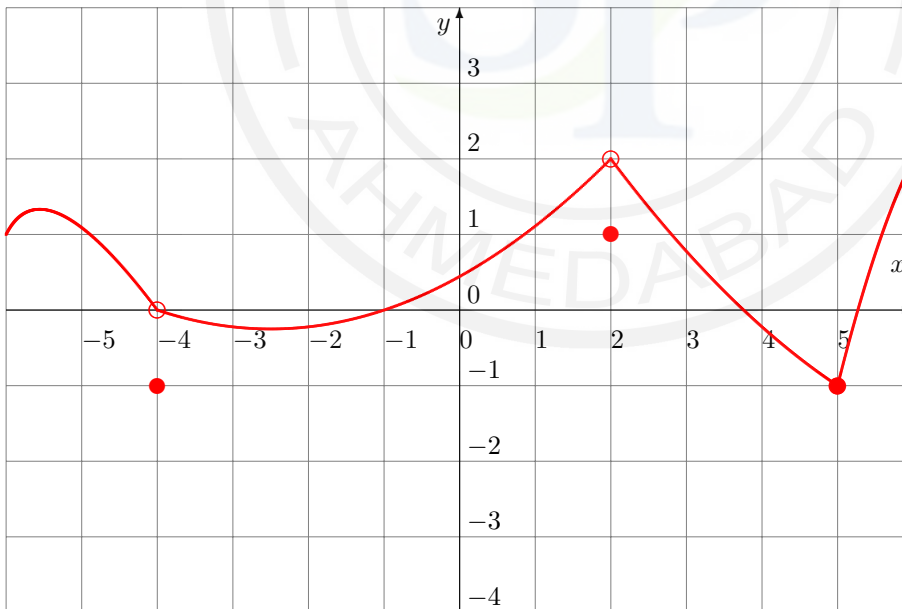
3. Consider the following function defined by its graph:



Find the following limits:

a)  $\lim_{x \rightarrow -2^-} f(x)$     b)  $\lim_{x \rightarrow -2^+} f(x)$     c)  $\lim_{x \rightarrow -2} f(x)$     d)  $\lim_{x \rightarrow -4} f(x)$     e)  $\lim_{x \rightarrow 3} f(x)$

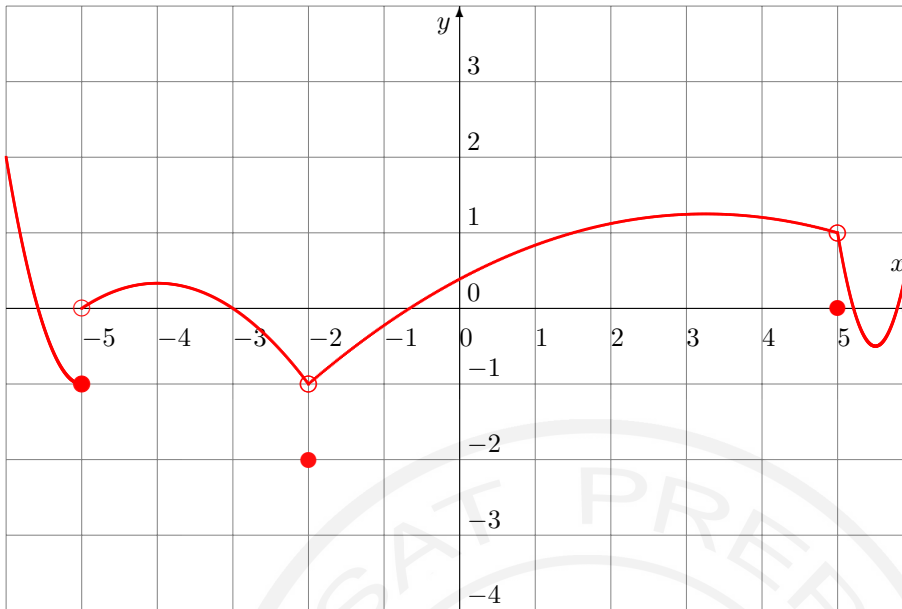
4. Consider the following function defined by its graph:



Find the following limits:

a)  $\lim_{x \rightarrow 2^-} f(x)$     b)  $\lim_{x \rightarrow 2^+} f(x)$     c)  $\lim_{x \rightarrow 2} f(x)$     d)  $\lim_{x \rightarrow -4} f(x)$     e)  $\lim_{x \rightarrow 5} f(x)$

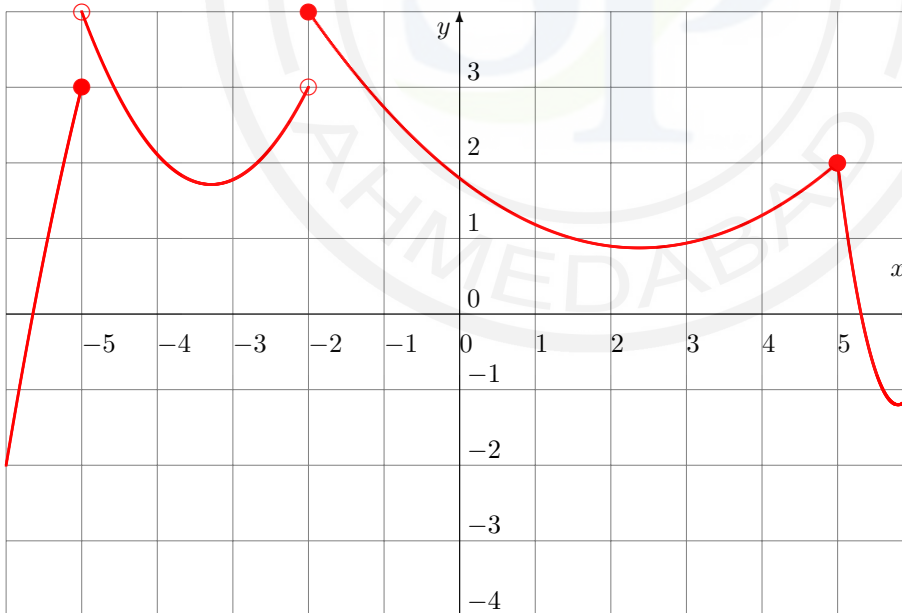
5. Consider the following function defined by its graph:



Find the following limits:

a)  $\lim_{x \rightarrow -2^-} f(x)$     b)  $\lim_{x \rightarrow -2^+} f(x)$     c)  $\lim_{x \rightarrow -2} f(x)$     d)  $\lim_{x \rightarrow -5} f(x)$     e)  $\lim_{x \rightarrow 5} f(x)$

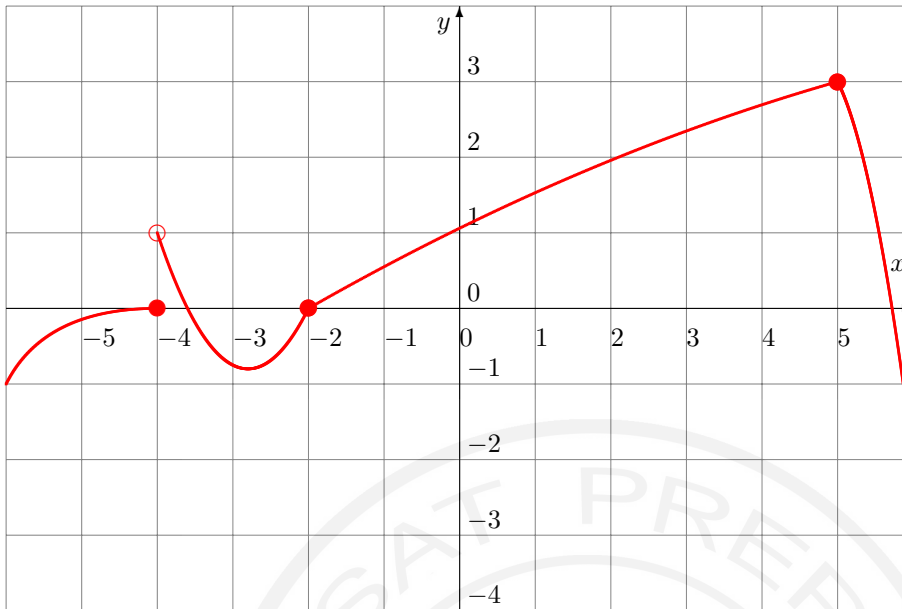
6. Consider the following function defined by its graph:



Find the following limits:

a)  $\lim_{x \rightarrow -2^-} f(x)$     b)  $\lim_{x \rightarrow -2^+} f(x)$     c)  $\lim_{x \rightarrow -2} f(x)$     d)  $\lim_{x \rightarrow -5} f(x)$     e)  $\lim_{x \rightarrow 5} f(x)$

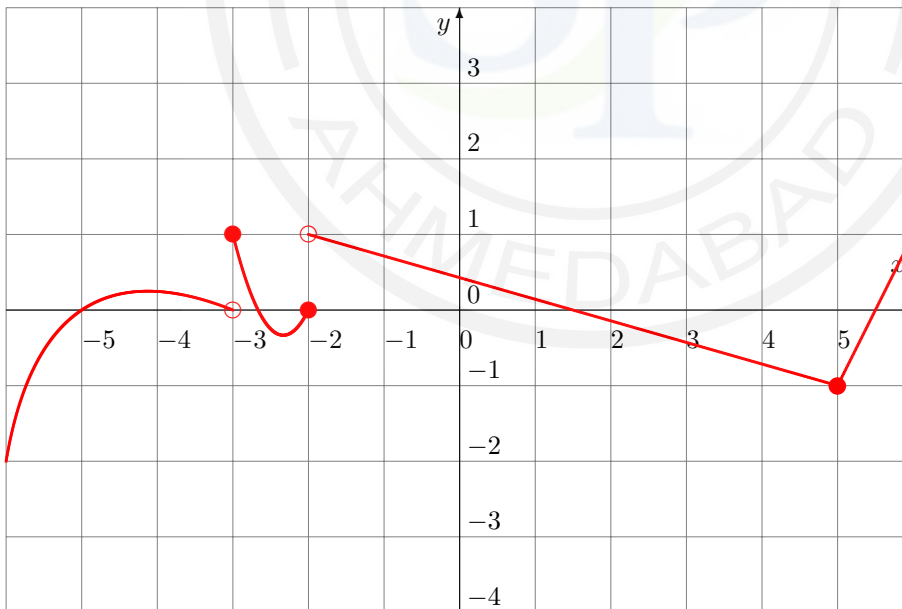
7. Consider the following function defined by its graph:



Find the following limits:

a)  $\lim_{x \rightarrow -2^-} f(x)$     b)  $\lim_{x \rightarrow -2^+} f(x)$     c)  $\lim_{x \rightarrow -2} f(x)$     d)  $\lim_{x \rightarrow -4} f(x)$     e)  $\lim_{x \rightarrow 5} f(x)$

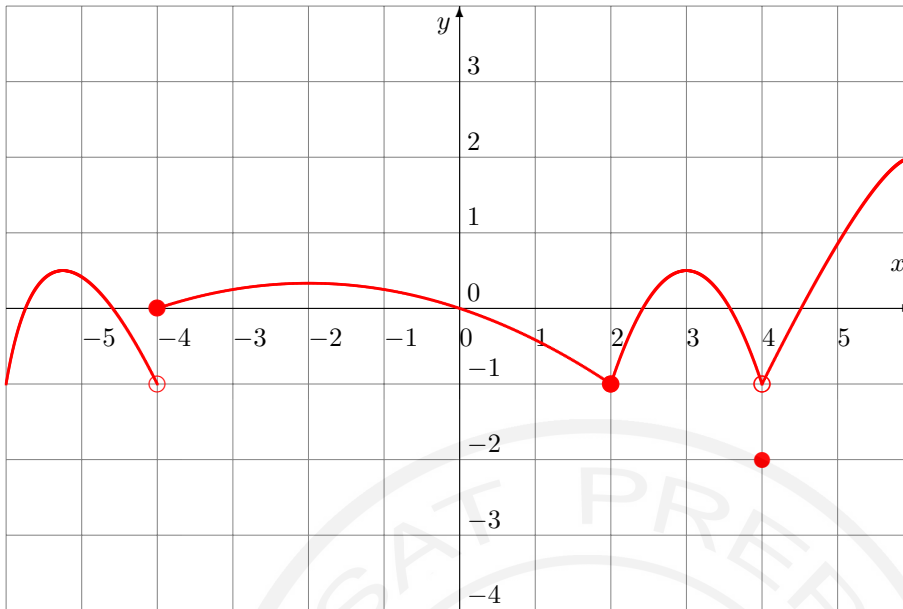
8. Consider the following function defined by its graph:



Find the following limits:

a)  $\lim_{x \rightarrow -2^-} f(x)$     b)  $\lim_{x \rightarrow -2^+} f(x)$     c)  $\lim_{x \rightarrow -2} f(x)$     d)  $\lim_{x \rightarrow -3} f(x)$     e)  $\lim_{x \rightarrow 5} f(x)$

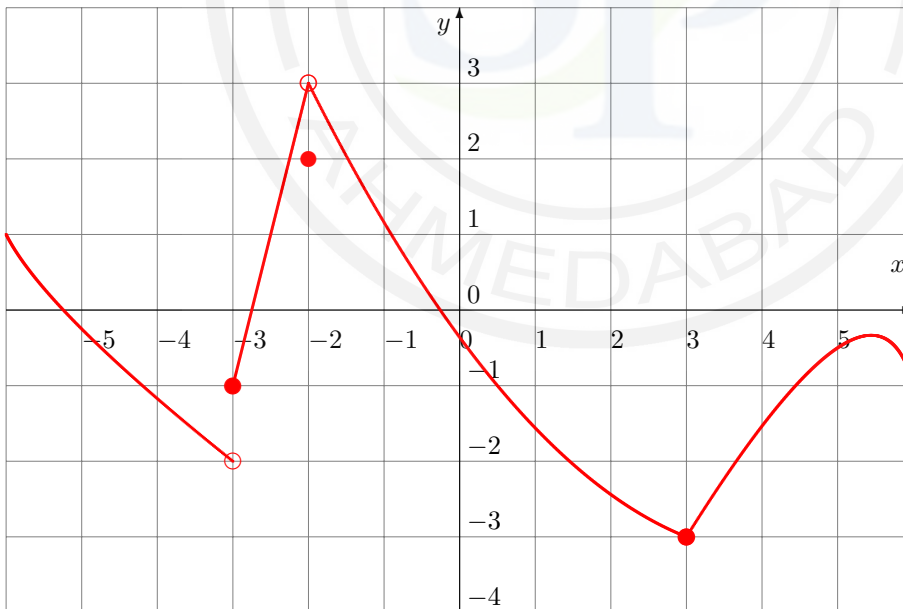
9. Consider the following function defined by its graph:



Find the following limits:

a)  $\lim_{x \rightarrow 2^-} f(x)$     b)  $\lim_{x \rightarrow 2^+} f(x)$     c)  $\lim_{x \rightarrow 2} f(x)$     d)  $\lim_{x \rightarrow -4} f(x)$     e)  $\lim_{x \rightarrow 4} f(x)$

10. Consider the following function defined by its graph:



Find the following limits:

a)  $\lim_{x \rightarrow -2^-} f(x)$     b)  $\lim_{x \rightarrow -2^+} f(x)$     c)  $\lim_{x \rightarrow -2} f(x)$     d)  $\lim_{x \rightarrow -3} f(x)$     e)  $\lim_{x \rightarrow 3} f(x)$

- ANSWERS:
- |           |        |         |         |         |
|-----------|--------|---------|---------|---------|
| 1. (a) 2  | (b) 2  | (c) 2   | (d) DNE | (e) DNE |
| 2. (a) 3  | (b) 3  | (c) 3   | (d) DNE | (e) DNE |
| 3. (a) -2 | (b) -2 | (c) -2  | (d) DNE | (e) -2  |
| 4. (a) 2  | (b) 2  | (c) 2   | (d) 0   | (e) -1  |
| 5. (a) -1 | (b) -1 | (c) -1  | (d) DNE | (e) 1   |
| 6. (a) 3  | (b) 4  | (c) DNE | (d) DNE | (e) 2   |
| 7. (a) 0  | (b) 0  | (c) 0   | (d) DNE | (e) 3   |
| 8. (a) 0  | (b) 1  | (c) DNE | (d) DNE | (e) -1  |
| 9. (a) -1 | (b) -1 | (c) -1  | (d) DNE | (e) -1  |
| 10. (a) 3 | (b) 3  | (c) 3   | (d) DNE | (e) -3  |

