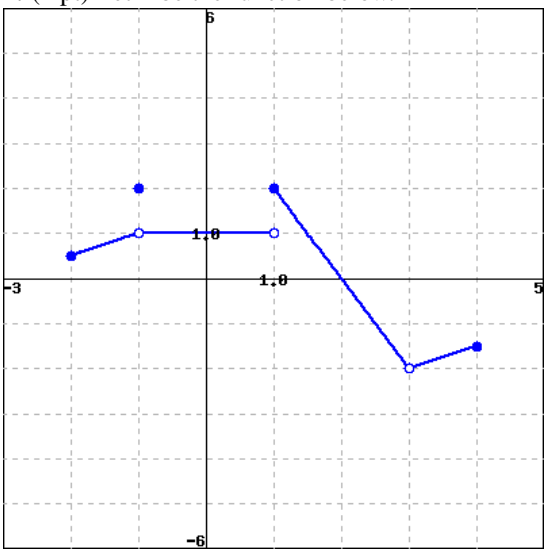
1. (1 pt) Let F be the function below.



Evaluate each of the following expressions.

Note: Enter 'DNE' if the limit does not exist or is not defined.

a) $\lim_{x\to -1^-} F(x) =$ ___

b) $\lim_{x\to -1^+} F(x) =$ ___

c) $\lim_{x\to -1} F(x) =$ ___

d) $F(-1) =$ ___

e) $\lim_{x\to 1^-} F(x) =$ ___

f) $\lim_{x\to 1^+} F(x) =$ ___

g) $\lim_{x\to 1} F(x) =$ ___

h) $\lim_{x\to 3} F(x) =$ ___

i) $F(3) =$ ___

Answer(s) submitted:

- 1
- 1
- 1
- 2
- 1
- 2
- DNE
- -2
- DNE

(correct)

Correct Answers:

- 1
- 1
- 1
- 2
- 1
- 2
- DNE
- -2
- DNE

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2. (1 pt) Sketch the graph of the following functions and use it to answer the following questions.

Let $f(x) = \begin{cases} 6-x, & \text{if } x < -3 \\ x, & \text{if } -3 \le x < 5 \\ (x-5)^2 & \text{if } x \ge 5 \end{cases}$

Calculate the following limits. Enter DNE if the limit does not exists.

$\lim_{x\to -3^-} f(x) =$ _____ $\lim_{x\to -3^+} f(x) =$ _____ $\lim_{x\to -3} f(x) =$ _____ $\lim_{x\to 5^-} f(x) =$ _____ $\lim_{x\to 5^+} f(x) =$ _____ $\lim_{x\to 5} f(x) =$ _____

Answer(s) submitted:

- 9
- -3
- DNE
- 5
- 0
- DNE

(correct)

Correct Answers:

- 9
- -3
- DNE
- 5
- 0
- DNE

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3. (1 pt) Guess the value of the limit (if it exists) by evaluating the function at the given numbers (correct to 5 decimal places):

$x = -7.9, -7.99, -7.999, -7.9999, -8.1, -8.01, -8.001, -8.0001$

If the limit does not exists enter DNE.

$$\lim_{x\to -8} \frac{7x+56}{x^2+6x-16}$$

_____

Answer(s) submitted:

- -7/10

(correct)

Correct Answers:

- -0.7

4. (1 pt) Guess the value of the limit (if it exists) by evaluating the function at the given numbers (correct to 5 decimal places):
$t = 36.1, 36.01, 36.001, 36.0001, 35.9, 35.99, 35.999, 35.9999$
If the limit does not exists enter DNE.

$$\lim_{t \to 36} \frac{36 - t}{6 - \sqrt{t}}$$

Answer(s) submitted:

- 12

(correct)
Correct Answers:

- 12

5. (1 pt) Use a table of values to estimate the value of the limit. Confirm your result graphically by graphing the function with a graphing device.
If the limit does not exist enter DNE.

$$\lim_{x \to 0} \frac{\sqrt{x+16} - 4}{x}$$

Answer(s) submitted:

- 1/8

(correct)
Correct Answers:

- 0.125