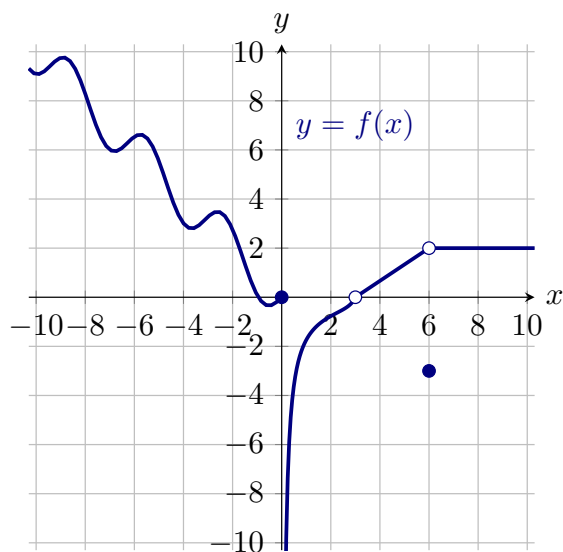**Exercise** **1** *Consider the function f, given by the graph below.*

f is (continuous/ not continuous ✓) at a = 0 because:

Multiple Choice:

(a) $\lim_{x \to a} f(x) = f(a)$

(b) $\lim_{x \to a} f(x)$ *does not exist* ✓

(c) $x = a$ *is not in the domain of* f

(d) $\lim_{x \to a} f(x)$ *exists but is not* $f(a)$

f is (continuous/ not continuous ✓) at a = 3 because:

Multiple Choice:

(a) $\lim_{x \to a} f(x) = f(a)$

(b) $\lim_{x \to a} f(x)$ *does not exist*

(c) $x = a$ *is not in the domain of* f ✓

(d) $\lim_{x \to a} f(x)$ *exists but is not* $f(a)$

f is (continuous ✓/ not continuous) at a = 5 because:

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Multiple Choice:

(a) $\lim\limits_{x \to a} f(x) = f(a)$ ✓

(b) $\lim\limits_{x \to a} f(x)$ *does not exist*

(c) $x = a$ *is not in the domain of* f

(d) $\lim\limits_{x \to a} f(x)$ *exists but is not* $f(a)$

f is (continuous/ not continuous ✓) at a = 6 because:

Multiple Choice:

(a) $\lim\limits_{x \to a} f(x) = f(a)$

(b) $\lim\limits_{x \to a} f(x)$ *does not exist*

(c) $x = a$ *is not in the domain of* f

(d) $\lim\limits_{x \to a} f(x)$ *exists but is not* $f(a)$ ✓

f is (right continuous/ left continuous ✓) at a = 0 because:

Multiple Choice:

(a) $\lim\limits_{x \to a^+} f(x) = f(a)$

(b) $\lim\limits_{x \to a^-} f(x) = f(a)$ ✓

(c) $\lim\limits_{x \to a} f(x)$ *does not exist*

(d) $x = a$ *is in the domain of* f