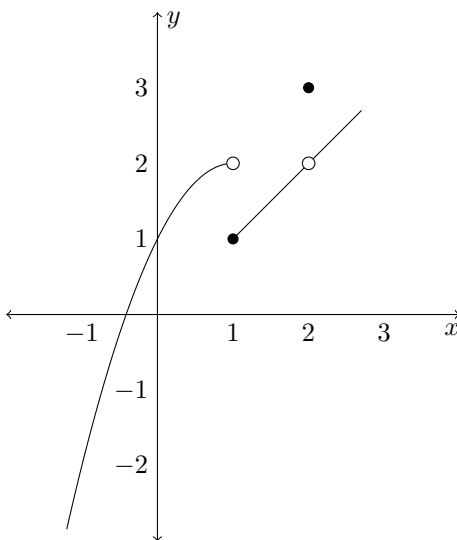Section:

Follow the instructions in each problem.
Show supporting work, not just a final answer, to receive credit on a problem.

1. (**5 pts**) Use the graph below to answer the following questions.

(a) $\lim\limits_{x \to 1^-} f(x) = 2$

(b) $\lim\limits_{x \to 1^+} f(x) = 1$

(c) $\lim\limits_{x \to 1} f(x)$ DNE

(d) $\lim\limits_{x \to 2} f(x) = 2$

(e) $f(2) = 3$

2. (**5 pts**) If an account earns 5% interest compounded continuously, how long does it take for the amount of money to triple?

$$F = 3P \quad \Rightarrow \quad F = Pe^{rt}$$

$$\Rightarrow 3P = Pe^{0.05t}$$

$$\Rightarrow e^{0.05t} = \frac{3P}{P}$$

$$\Rightarrow 0.05t = \ln(3)$$

$$\Rightarrow t = \frac{\ln(3)}{0.05} \approx 21.97 \text{ years}$$