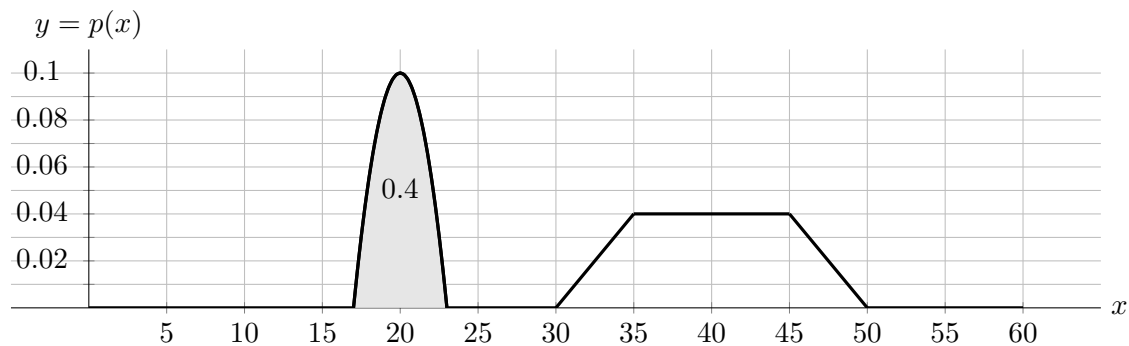


2. [8 points] Casey sometimes rides her bicycle in to school, and other times rides the bus. Let $p(x)$ be the probability density function for x , the time, in minutes, it takes Casey to get to school. The graph of $p(x)$ is given below. The area of the shaded region is 0.4.



- a. [1 point] When she rides her bicycle, it always takes her significantly less time than when she takes the bus. What fraction of the days Casey goes to school does she ride her bike in?

Answer: 0.4 or 40%

- b. [2 points] If Casey always leaves her apartment exactly 40 minutes before class is supposed to start, what is the probability that she is late (assuming class starts on time)?

Answer: 0.30 or 30%

- c. [2 points] What is the median amount of time it takes Casey to get to school?

Answer: 35 min

- d. [3 points] Which of the following is the one best interpretation of the equation $p(19) = 0.06$?

- i. About 6% of the time, it takes Casey exactly 19 minutes to get to school.
- ii. About 6% of the time, it takes Casey at most 19 minutes to get to school.
- iii. About 6% of the time, it takes Casey between 18 and 20 minutes to get to school.
- iv. About 12% of the time, it takes Casey between 18 and 20 minutes to get to school.
- v. About 12% of the time, it takes Casey at most 18 to 20 minutes to get to school.