

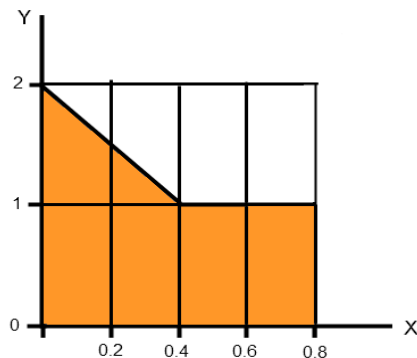
Name _____

Period _____

Irregular Density Curve Practice

Refer to the curve given and answer the questions which follow.

1.



- a) Verify the above is a density curve (i.e. show the total area is equal to 1).

For each of the following use areas under this density curve to find the proportion of observations within the given interval.

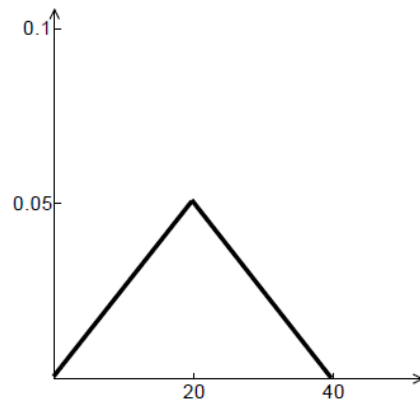
- b) $0.6 \leq X \leq 0.8$
c) $0 \leq X \leq 0.4$
d) $0 \leq X \leq 0.2$

2. If a density curve has a uniform distribution over the interval (on x) from 3 to 12, what value, on the y-axis, would mark the height of this density curve? Use the template below to draw the curve.



- a) What proportion of observations is greater than 7?
b) What proportion of observations is between 4 and 10?
c) What proportion of observations is equal to 5?

3. Given the following curve:



- a) Verify that the total area under the curve is equal to 1 (that it is a valid density curve).
- b) What percent of observations occur when $x < 20$? When $x \leq 20$?
- c) What percent of observations occur when $x < 10$? When $x > 30$?
- d) What percent of observations occur when $10 < x < 30$?
4. A certain density curve consists of a straight-line segment that begins at the origin (0,0) and has a slope of 1.
- a) Sketch the density curve. What is the right endpoint of the line segment?
- b) Determine the median, Q1 and Q3.
- c) Where is the mean relative to the median?
- d) What percent of the observations lie below 0.5? Above 1.5?