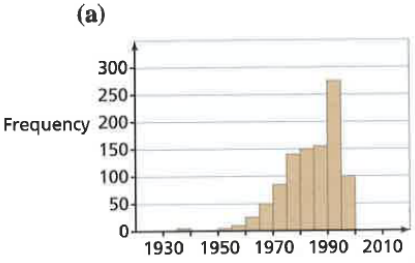
Section 3.1 Worksheet – Shapes of Distributions

MDM4U
Jensen

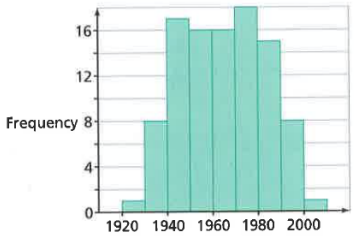
1) Match the following distribution curves to the random variables listed below. Also, describe the shape of the distribution.

i) cost of the "cheap seats" at 30 baseball stadiums
ii) bowling scores
iii) the gestation period in days of various animals
iv) the year shown on a penny
v) the production year of the American Film Institute's top 100 films
vi) amounts shown on an electric bill

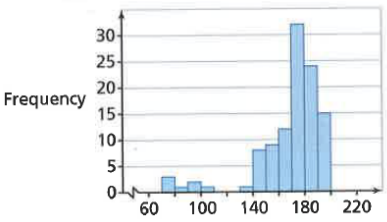
(a)



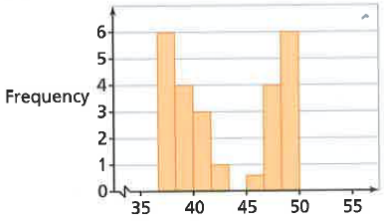
(b)



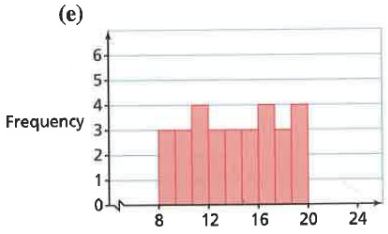
(c)



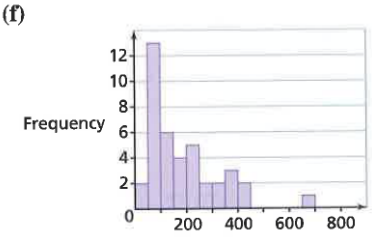
(d)



(e)



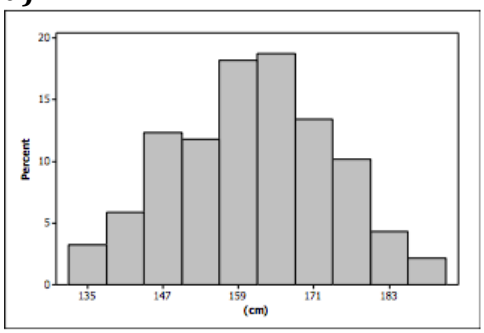
(f)



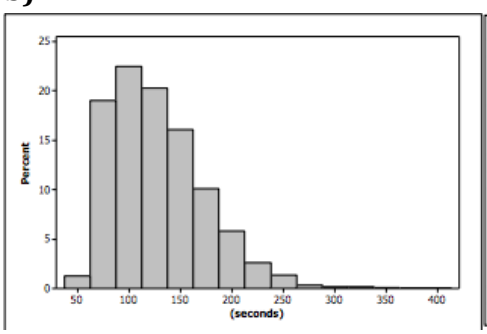
2) Match the following distribution curves to the random variables listed below. Also, describe the shape of the distribution.

i) Population by age for England (2011 census)
ii) Average rainfall per month for Bermuda
iii) Time taken by students to complete an online quiz
iv) Weight of new-born babies
v) Children's heights
vi) Student scores for a 12 question quiz (5 marks for each correct answer)

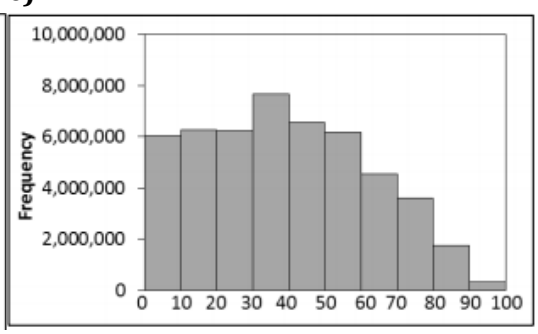
a)



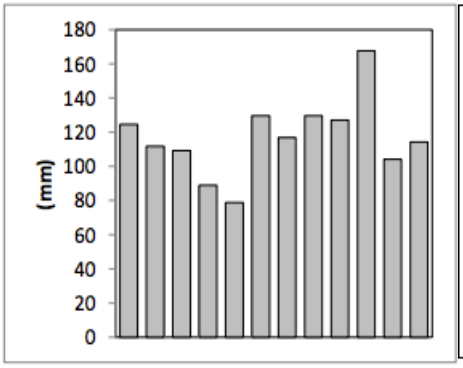
b)



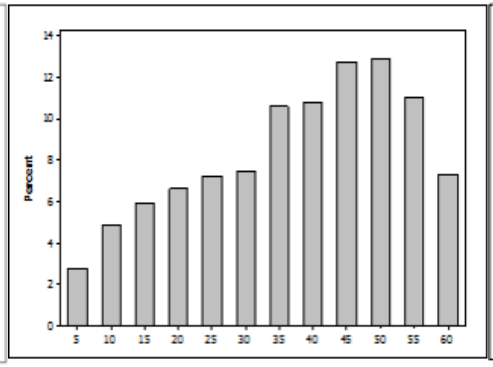
c)



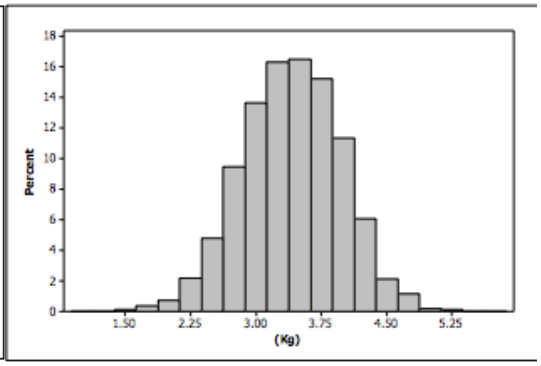
d)



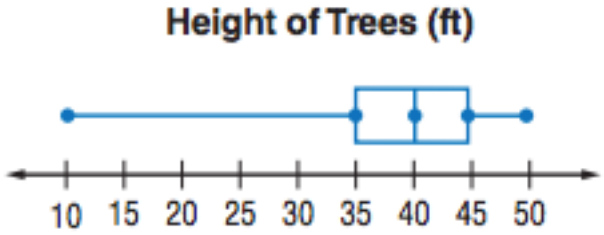
e)



f)



3) The box and whisker plot shows the heights in feet of several trees. Is the distribution skewed left or right? Explain.



4) Using the following data:

13, 7, 5, 7, 9, 10, 5, 11, 8, 7, 9, 10, 10, 11, 14, 10, 6, 9, 7, 12, 9, 10, 6

a) Calculate a bin width that would form five uniform intervals
b) Calculate the starting and end point for each of the five intervals. Then create a frequency distribution.
c) Create an appropriate histogram.

5) The following data represent salaries, in thousands of dollars, for employees of a small company. Notice the data have been sorted in increasing order.

24, 25, 25, 27, 27, 29, 30, 35, 35, 35, 36, 38, 38
39, 39, 40, 40, 40, 45, 45, 45, 45, 47, 52, 52, 52
58, 59, 59, 61, 61, 67, 68, 68, 68, 70

a) Calculate a bin width that would form five uniform intervals
b) Calculate the starting and end point for each of the five intervals. Then create a frequency distribution.
c) Create an appropriate histogram.