## Relative Frequency Histogram Worksheets

1. The frequency table below shows the length of selected movies shown in a local theater over the past 6 months.

| Length of Movie <br> (minutes) | Tally | Frequency | Relative Frequency |
| :---: | :---: | :---: | :---: |
| $80-<90$ | $\\|$ | 1 |  |
| $90-<100$ | $\\|\\|$ | 4 |  |
| $100-<110$ | $H\\|\\|$ | 7 |  |
| $110-<120$ | $H \\|$ | 5 |  |
| $120-<130$ | $\\|\\|\\|$ | 7 |  |
| $130-<140$ | $\\|$ | 3 |  |
| $140-<150$ | $\\|$ | 1 |  |

a. Complete the relative frequency column. Round the relative frequencies to the nearest thousandth.
b. What percentage of the movie lengths are greater than or equal to 130 minutes?
c. Draw a relative frequency histogram. (Hint: Label the relative frequency scale starting at $O$ and going up to 0.30 , marking off intervals of 0.05 .)
d. Describe the shape of the relative frequency histogram.

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| :---: | :---: | :---: | :---: |
| $80-<90$ | $\\|$ | 1 | 0.036 |
| $90-<100$ | $\\|\\|\\|$ | 4 | 0.143 |
| $100-<110$ | $H H$ | 7 | 0.250 |
| $110-<120$ | $H H \\|$ | 5 | 0.179 |
| $120-<130$ | $\\|\\|$ | 7 | 0.250 |
| $130-<140$ | $\\|$ | 3 | 0.107 |
| $140-<150$ |  | 1 | 0.036 |

a. Complete the relative frequency column. Round the relative frequencies to the nearest thousandth.
See the table above.
b. What percentage of the movie lengths are greater than or equal to 130 minutes?
$0.107+0.036=0.143$, or $14.3 \%$ of the movie lengths are greater than or equal to 130 minutes.
c. Draw a relative frequency histogram. (Hint: Label the relative frequency scale starting at $O$ and going up to 0.30 , marking off intervals of 0.05 .)

d. Describe the shape of the relative frequency histogram.

The histogram is mound shaped and approximately symmetric.

