

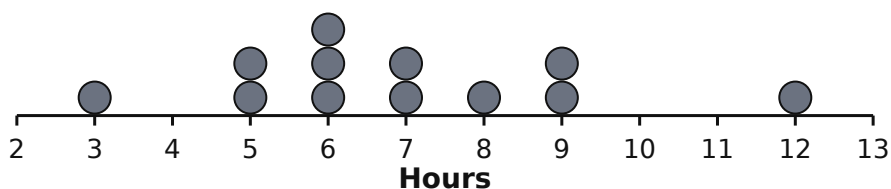
AP Statistics - Graphs of Quantitative Data and Shape - Test Answer Key

Common Core AP STAT 1.4, AP STAT 1.5, HSS-ID.A.1, HSS-ID.A.3 · maths-pdf.fr/en/

Each solution lists the points for graph reading, calculation, and the context sentence. Give partial credit when the method is right but a count is off by one.

AP Statistics · Common Core State Standards: **AP STAT 1.4, AP STAT 1.5, HSS-ID.A.1, HSS-ID.A.3**

Question 1 - Read the dotplot [3 pts]



Study hours of 12 students in a week.

(a) 3 students.

(b) 9,9,12 gives 3 students, $\frac{3}{12} = 25\%$.

(c) The value 12 is 3 hours above the next value 9 and separated by a gap, so it is a possible outlier.

3; 25%; yes, 12 is separated from the rest.

Scoring: 1 point per part.

Question 2 - Stemplot [3 pts]

```
5 | 1 6 8
6 | 2 3 5 5
7 | 1 4 8
8 | 1
```

Key: 6|5 = 65

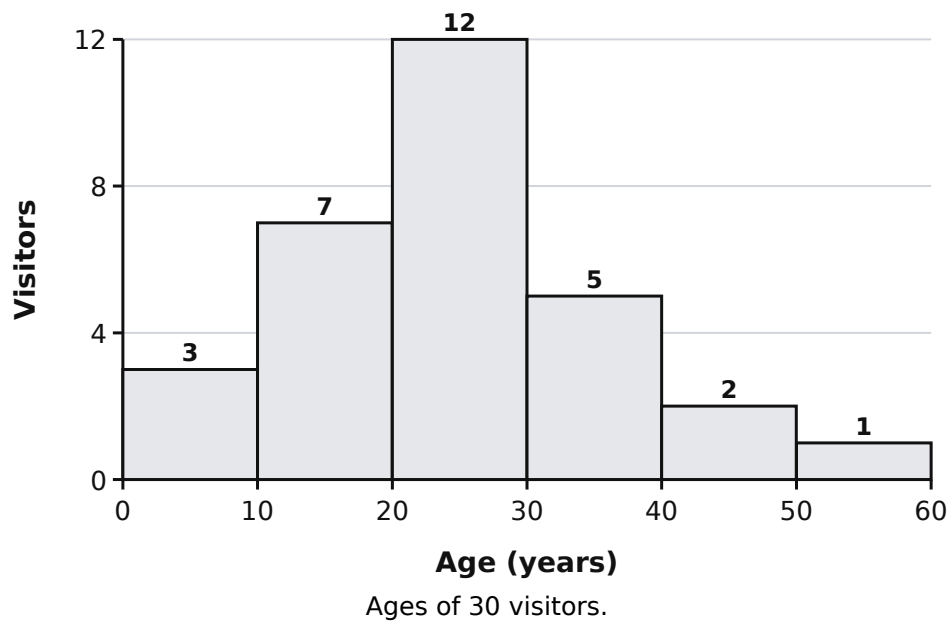
Completed stemplot.

The 6th value of 11 is 65.

Median 65.

Scoring: 1 point for correct stems, 1 point for all leaves ordered with a key, 1 point for the median.

Question 3 - Histogram counts [3 pts]



(a) $3+7+12=22$.

(b) $2+1=3$, $\frac{3}{30}=10\%$.

(c) Unimodal with the peak at 20 to 30 and a tail to the right.

22; 10%; unimodal and skewed right.

Scoring: 1 point per part.

Question 4 - Bar graph or histogram [2 pts]

A bar graph shows a categorical variable and its bars have gaps; a histogram shows a quantitative variable and its bars touch. In a histogram, the order and width of the intervals matter.

Categorical vs quantitative variable; gaps vs touching bars.

Scoring: 1 point for each correct difference.

Question 5 - Shape vocabulary [2 pts]

The long tail points toward the large incomes.

Skewed right.

Scoring: 1 point for skewed right; 1 point for the tail direction toward high values.

Question 6 - Bimodal data [2 pts]

The distribution is bimodal.

Bimodal; for example, walk-in and scheduled patients may have different typical waits.

Scoring: 1 point for bimodal; 1 point for a reasonable explanation in context.

Question 7 - Relative frequency [2 pts]

$\frac{20}{50} = 0.40$. Below 40: $6 + 14 = 20$, so $\frac{20}{50} = 40\%$.

0.40; 40%.

Scoring: 1 point for each answer.

Question 8 - Describe a distribution [3 pts]

Median (5th of 9): 65°F. All values except 90 are from 61 to 68.

Skewed right with an outlier at 90°F; center about 65°F; the other temperatures range from 61°F to 68°F (7 degrees).

Scoring: 1 point for shape and outlier, 1 point for center in context, 1 point for spread.

Total

20 points