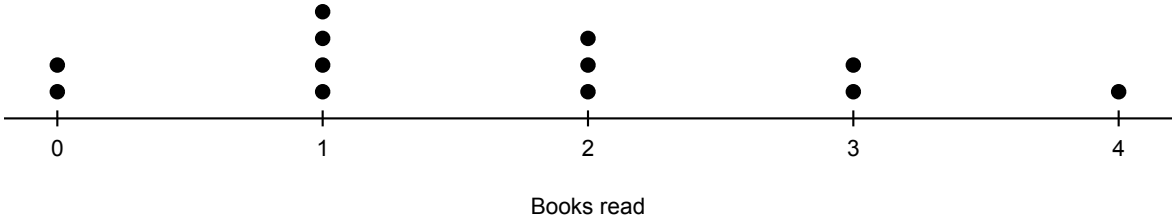
Name: _____ Date: _____

Count every dot

The plot records books read last month by a group of students. Each dot represents one student.



(a) How many students are represented? How many read exactly 2 books?

Set it up: Total students = sum of all frequencies. Exactly 2 means use the count above 2.

Work: Total = 2 + 4 + 3 + 2 + 1 = 12. The frequency at 2 is 3.

Answer: 12 students in total; 3 read exactly 2 books.

(b) Find the mean and median number of books. Round the mean to three decimal places.

Set it up: Mean = sum of (value times frequency) / total count. Median uses ordered student positions.

Work: Weighted total = (0 x 2) + (1 x 4) + (2 x 3) + (3 x 2) + (4 x 1) = 20. Mean = 20/12 = 1.667. Middle positions: 6 and 7. Median = 1.5.

Answer: Mean = 1.667 books; median = 1.5 books.

(c) What fraction of these students read at least 2 books? Give a decimal rounded to four places and a percent rounded to two places.

Set it up: Whole group: all students shown. Favorable group: those at the cutoff or above. Share = favorable count / total.

Work: Count at or above 2 = 6. Fraction = 6/12. Decimal = 0.5000. Percent = (6/12) x 100 = 50.00%.

Answer: 6/12 = 0.5000 = 50.00% of these students.

(d) Describe the clusters or gaps. Can you read the exact number of students at each value from this plot?

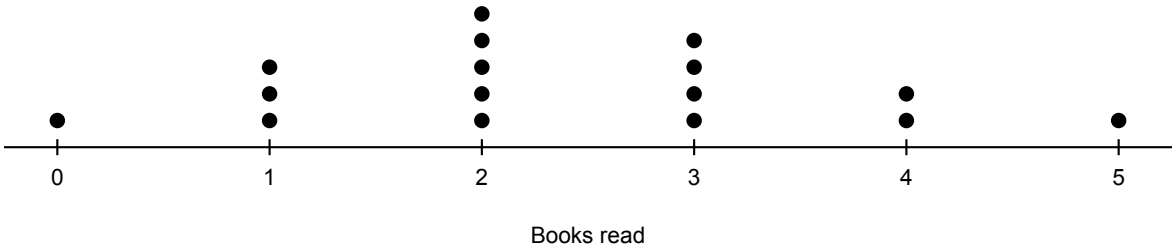
Set it up: Read the frequency of every shown value. A dot plot retains individual counts.

Work: Counts from 0 through 4: 2, 4, 3, 2, 1. The highest stack is at 1; there are no empty values between the endpoints.

Answer: No empty values between 0 and 4; the highest stack is at 1. Yes, the exact count at every value is the number of dots above it.

Use the repeated values

The plot records books read last month by a group of students. Each dot represents one student.



(a) How many students are represented? How many read exactly 2 books?

Set it up: Total students = sum of all frequencies. Exactly 2 means use the count above 2.

Work: Total = 1 + 3 + 5 + 4 + 2 + 1 = 16. The frequency at 2 is 5.

Answer: 16 students in total; 5 read exactly 2 books.

(b) Find the mean and median number of books. Round the mean to three decimal places.

Set it up: Mean = sum of (value times frequency) / total count. Median uses ordered student positions.

Work: Weighted total = (0 x 1) + (1 x 3) + (2 x 5) + (3 x 4) + (4 x 2) + (5 x 1) = 38. Mean = 38/16 = 2.375. Middle positions: 8 and 9. Median = 2.

Answer: Mean = 2.375 books; median = 2 books.

(c) What fraction of these students read at least 2 books? Give a decimal rounded to four places and a percent rounded to two places.

Set it up: Whole group: all students shown. Favorable group: those at the cutoff or above. Share = favorable count / total.

Work: Count at or above 2 = 12. Fraction = 12/16. Decimal = 0.7500. Percent = (12/16) x 100 = 75.00%.

Answer: 12/16 = 0.7500 = 75.00% of these students.

(d) Describe the clusters or gaps. Can you read the exact number of students at each value from this plot?

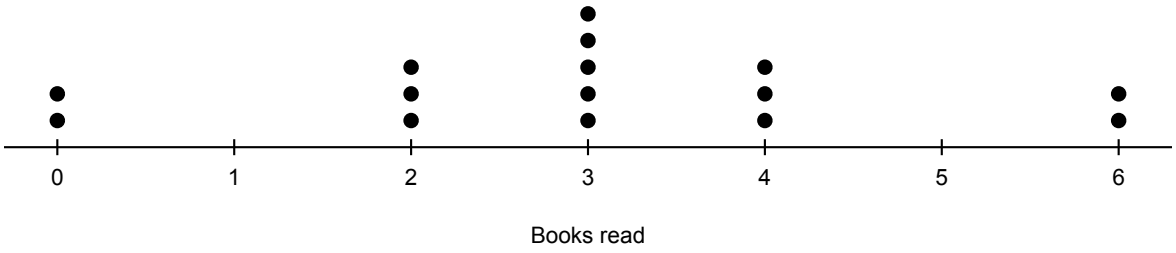
Set it up: Read the frequency of every shown value. A dot plot retains individual counts.

Work: Counts from 0 through 5: 1, 3, 5, 4, 2, 1. The highest stack is at 2; there are no empty values between the endpoints.

Answer: No empty values between 0 and 5; the highest stack is at 2. Yes, the exact count at every value is the number of dots above it.

Find the gaps

The plot records books read last month by a group of students. Each dot represents one student.



(a) How many students are represented? How many read exactly 2 books?

Set it up: Total students = sum of all frequencies. Exactly 2 means use the count above 2.

Work: Total = 2 + 0 + 3 + 5 + 3 + 0 + 2 = 15. The frequency at 2 is 3.

Answer: 15 students in total; 3 read exactly 2 books.

(b) Find the mean and median number of books. Round the mean to three decimal places.

Set it up: Mean = sum of (value times frequency) / total count. Median uses ordered student positions.

Work: Weighted total = (0 x 2) + (1 x 0) + (2 x 3) + (3 x 5) + (4 x 3) + (5 x 0) + (6 x 2) = 45. Mean = 45/15 = 3.000. Middle position: 8. Median = 3.

Answer: Mean = 3.000 books; median = 3 books.

(c) What fraction of these students read at least 4 books? Give a decimal rounded to four places and a percent rounded to two places.

Set it up: Whole group: all students shown. Favorable group: those at the cutoff or above. Share = favorable count / total.

Work: Count at or above 4 = 5. Fraction = 5/15. Decimal = 0.3333. Percent = (5/15) x 100 = 33.33%.

Answer: 5/15 = 0.3333 = 33.33% of these students.

(d) Describe the clusters or gaps. Can you read the exact number of students at each value from this plot?

Set it up: Read the frequency of every shown value. A dot plot retains individual counts.

Work: Counts from 0 through 6: 2, 0, 3, 5, 3, 0, 2. There are gaps at 1 and 5; the largest stack is at 3.

Answer: Gaps at 1 and 5; a central cluster from 2 through 4 and the highest stack at 3. Yes, the exact count at every value is the number of dots above it.