Test answers - Pie charts, line graphs and the mean

Year: Year 6 · Duration: 40 minutes · /20

Answer to Question 1 (3 marks)

a. The whole circle is 360° for 60 pupils: 360 ÷ 60 = **6°** per pupil. (1 mark)
b. Multiply each frequency by 6: red 24 × 6 = **144°**, blue 18 × 6 = **108°**, green 12 × 6 = **72°**, yellow 6 × 6 = **36°**. (1 mark)
c. 144 + 108 = 252, 252 + 72 = 324, 324 + 36 = **360°**, a full circle. (1 mark)

Answer to Question 2 (4 marks)

a. 80 ÷ 360 = $\frac{2}{9}$ of a child for each degree. (1 mark)
b. 135° out of 360° is $\frac{3}{8}$. $\frac{3}{8}$ of 80 = **30 children**. (1 mark)
c. 180° is half, so **40 children**. (1 mark)
d. 45/360 = $\frac{1}{8}$, and $\frac{1}{8}$ of 80 = 10 children cycle. (1 mark)

Answer to Question 3 (4 marks)

a. **60 visitors**. (1 mark)
b. Busiest at 12; 60 − 20 = **40 more** visitors. (1 mark)
c. (20 + 35 + 60 + 50 + 30) ÷ 5 = 195 ÷ 5 = **39**. (1 mark)
d. Halfway between 35 and 60 is **47.5**, so about 48 visitors (an estimate). (1 mark)

Answer to Question 4 (4 marks)

a. (6 + 9 + 12 + 5 + 8) ÷ 5 = 40 ÷ 5 = **8**. (1 mark)
b. Total = 60. The known numbers add to 44, so the fourth is **16**. (1 mark)
c. 5 × 14 = **70**. (1 mark)
d. (70 + 20) ÷ 6 = 90 ÷ 6 = **15**. (1 mark)

Answer to Question 5 (5 marks)

a. 360 ÷ 120 = 3° for each member. Swimming 120°, tennis 90°, football 105°, badminton 45°. (2 marks)
b. 35/120 = $\frac{7}{24}$. (1 mark)
c. (28 + 35 + 42) ÷ 3 = 105 ÷ 3 = **35**. (1 mark)

d. Total needed = 3 × 40 = 120. Third session = 120 − 38 − 36 = **46 members**. (1 mark)