



## S27-10min Frequency Polygons: 10-minute Pack

EDEXCEL 1ST0 · Calculator allowed · about 10 minutes

Total Marks

Name: \_\_\_\_\_ Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

**Answer ALL questions. Show all your working.**

**1** A frequency polygon is most appropriate for displaying which type of data?

- ☐ A) Categorical data, such as favourite colour
- ☐ B) Continuous grouped data, such as height recorded in class intervals
- ☐ C) Qualitative data with no numerical value
- ☐ D) Two unrelated categorical variables shown together

(Total for Question 1 is 1 mark)

**2** For each statement about frequency polygons, write down whether it is True or False.

**(i)** The height of each plotted point on a frequency polygon represents a frequency. **(1)**

\_\_\_\_\_

**(ii)** A frequency polygon plots frequency against the upper class boundary of each interval. **(1)**

\_\_\_\_\_

**(iii)** Two frequency polygons can be drawn on the same axes to compare two distributions. **(1)**

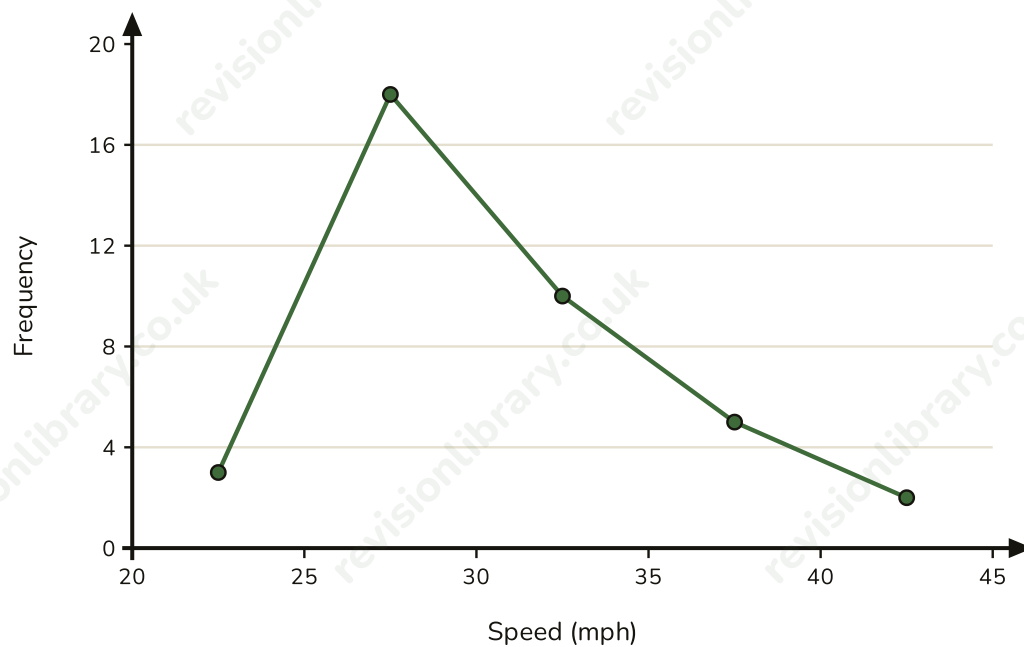
\_\_\_\_\_

**(iv)** The modal class of a distribution shown by a frequency polygon is the class at the lowest plotted point. **(1)**

\_\_\_\_\_

(Total for Question 2 is 4 marks)

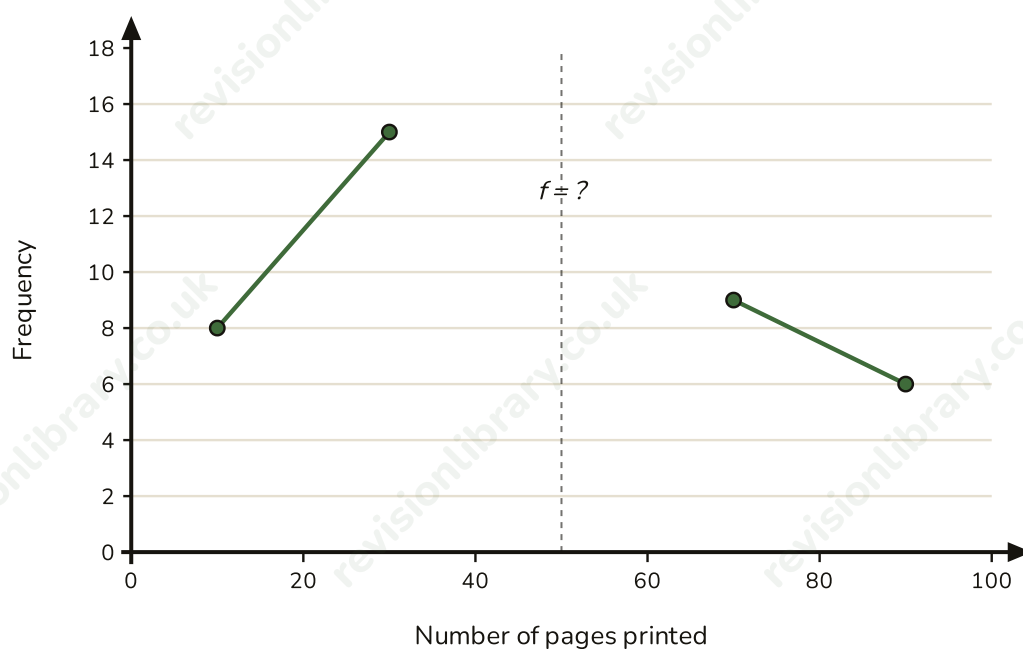
- 3** The frequency polygon shows the speeds, in mph, of 38 cars recorded on a residential road with a 30 mph speed limit.



- (a)** Which word best describes the skew of this distribution? **(1)**
- ☐ A) Symmetrical
  - ☐ B) Positively skewed (skewed to the right)
  - ☐ C) Negatively skewed (skewed to the left)
  - ☐ D) Uniform (no skew)
- (b)** Give a reason for your answer, referring to the shape of the frequency polygon. **(1)**

**(Total for Question 3 is 2 marks)**

- 4 A print shop recorded the number of pages printed for each of 50 print jobs one day. The frequency polygon below shows the results, but the point for the class  $40 < p \leq 60$  is missing.



- (a) The total number of print jobs is 50. Work out the value of  $f$ , the frequency of the class  $40 < p \leq 60$ . (3)

- (b) Write down the coordinates that should be plotted for this class. (1)

(Total for Question 4 is 4 marks)

## Mark scheme · S27-10min Frequency Polygons: 10-minute Pack

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### Question 1

- **B1** B cao
- **Answer: B) Continuous grouped data, such as height recorded in class intervals**

### Question 2

- (i) **B1** True cao
- **(i) Answer: True**
- (ii) **B1** False cao
- **(ii) Answer: False**
- (iii) **B1** True cao
- **(iii) Answer: True**
- (iv) **B1** False cao
- **(iv) Answer: False**

### Question 3

- (a) **B1** B cao
- **(a) Answer: B) Positively skewed (skewed to the right)**
- (b) **B1** correct reference to a peak at low speeds with a tail of lower frequencies extending towards higher speeds, oe
- **(b) Answer: The peak is at a low speed, with a tail stretching towards the higher speeds.**

### Question 4

- (a) **M1**  $8 + 15 + 9 + 6 (= 38)$ , oe
- (a) **M1**  $50 - 38$  (dependent on the first method mark)
- (a) **A1** 12 cao
- **(a) Answer: 12**
- (b) **B1** (50, 12), ft from (a)
- **(b) Answer: (50, 12)**