

# IGCSE - Histogram Answers

0 min  
0 marks

1.	(a)	(i)	Median 46.5	B1
		(ii)	IQR 9.5 SC1 for 42 <u>or</u> 51.5 <u>seen</u>	B2
		(iii)	48 SC1 for 102 <u>seen</u>	B2
	(b)	(i)	$n = 32$	B1
		(ii)	Midpts 32.5, 37.5, 42.5, 47.5, 52.5, 57.5 At least 5 correct s.o.i.  $10 \times 32.5 + 17 \times 37.5 + 33 \times 42.5 + 42 \times 47.5$ $+ \text{their } 32 \times 52.5 + 16 \times 57.5$ [6960] Dep on first M1 <u>or</u> midpoints $\pm 0.5$ Allow 1 more slip	M1
			$\Sigma fx / 150$ Dep on 2 <sup>nd</sup> M1*	M1 *
			46.4	M1
	(c)		Horizontal Scale correct Implied by correct use. <u>Ignore vertical scale</u>	A1
			3 correct widths on their scale (f.t) For each block of correct width no gaps	S1
			2.7 cm For scale error double or half, award H1, H1, H1	W1✓
			7.1(3) or 7.2 cm for correct f.t heights	H1
			3.2 cm After H0, SC1 for 3 <u>correct</u> frequency densities written or for heights 2.7 cm, 7.1 cm and 3.2 cm drawn on doubled/ halved horizontal scale.	H1

[15]

2. (a) (i) mid-values 10, 25, 32.5, 37.5, 45, 55, 70  
seen M1  
At least 6 correct s.o.i.  
 $(10 \times 10) + (10 \times 25) + (15 \times 32.5) + (28 \times 37.5) + (22 \times 45) + (7 \times 55) + (8 \times 70)$  [3822.5] M1\*  
Dep on first M1 or mid-values  
 $\pm 0.5$  Allow 1 more slip.  
Total  $\div 100$  M1  
Dep on second M1\*  
**38.2** (38.225) A1
- (ii)  $\frac{15}{100} \times \frac{14}{99}$  M1  
 $\frac{210}{9900}$  o.e. A1  
 $\frac{7}{330}$  **Final answer** A1
- (b) (i)  **$p = 20$**  B1  
 **$q = 72$**  B1
- (ii) **Horizontal scale correct** S1  
Implied by correct use. Ignore the vertical scale.  
For each block of correct width  
For scale error (halved), award  
Height 3.3 cm H1  
H1, H1, H1 for correct **ft** heights.  
Height 12 cm H1  
Height 2 cm H1  
After H0, H0, H0, give SC1 for **correct** frequency densities written. **(0.67, 2.4, 0.4)**

[13]

3. (i) **150** B1
- (ii) **125** B1
- (iii) Mid values 25, 62.5, 87.5 M1
- (‘150’ × 25 + 100 × 62.5 + ‘125’ × 87.5)  
dep M1
- Not for 3 or 4 or 5 used as frequencies
- (20937.5) ÷ ‘375’ M1
- dep on 2<sup>nd</sup> M1
- 55.8** (3...) c.a.o. A1
- www 4

[6]

4. (i) 
$$\frac{35 \times 15 + 115 \times 21 + 26 \times 23 + 24 \times 27}{200}$$
 M3
- (4186/200) M1 for use of 15, 21, 23, 27 (allow one error)
- and M1 for use of  $\sum fx$  with value of  $x$  in correct range used (allow one further error)
- and M1 dep on 2<sup>nd</sup> **M** for dividing by  $\sum f$  or 200
- 20.93 or 20.9 c.a.o A1
- www4 Accept 21 after **M3** earned
- (ii) 2.6 c.a.o B1
- 0.7 and 0.8 B4
- B3** for one correct
- or **B2** for 3.5 **and** 4 seen
- or B1 for 4 seen

[9]