

Christ's Hospital School: 13+ Maths 2013



School: Christ's Hospital School (The Bluecoat School)

Subject: Maths

Level: 13+

Time: 60 mins

Type: Past Paper

Year in use: 2014

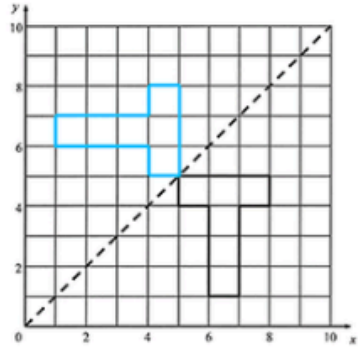
Section A

Q. ▾	Answer ▾	Solution ▾
1.	10.200	
2.	-4, -8	
3.	8^4	
4.	120	
5.	FALSE	
6.	$\sqrt{50}$	
7.	$2 \times 2 \times 2 \times 3 \times 3 \times 5$	
8.	15, 9	

9.	$4 + 5n$
10.	$66^\circ, 66^\circ, 132^\circ$
11.	$d = 75^\circ, e = 105^\circ$
12.	(5, 4)
13.	(a) 0.1 (b) 0.5 (c) 0.6 (d) 12
14.	$\frac{2}{3} + \frac{1}{4}$ $= \frac{(2 \times 4)}{(3 \times 4)} + \frac{(1 \times 3)}{(3 \times 4)}$ $= \frac{(8 + 3)}{(3 \times 4)}$ $= \frac{11}{12}$ Ans = $\frac{11}{12}$
15.	570
16.	55°
17.	Ans: $4 \frac{5}{6}$ $7 \frac{1}{2} - 2 \frac{2}{3}$ $= \frac{15}{2} - \frac{8}{3}$ $= \frac{[(15 \times 3) - (8 \times 2)]}{(2 \times 3)}$ $= \frac{(45 - 16)}{6}$ $= \frac{29}{6}$ $= 4 \frac{5}{6}$

18. B

19.



20.

- (a) $24x + 18$
- (b) $12x - 1$
- (c) $8x - 6$
- (d) 6 and 2

21.

$x = 8$

22.

- (a) $x = 30^\circ$
- (b) 130°

23.

$(4, 13)$

24.	(a) 66cm^3 (b) 90cm^3
25.	(a) 21 (b) $2x - 3$
26.	(a) 23 years old (b) 21 years old (c) 22 years old
27.	(a) 10.621 (b) 24.7

Section B

Q.	Answer	Solution
1.	A. 27, 30 B. 15, 21 C. 72, 98 D. 125, 196	
2.	E. 29 F. NO G. 155	
3.	H. 1525 I. 140 J. -2^{11} or -2048	

4. K. YES
L. YES
M. YES

5. N. 60230

6. O. Because the difference between the adjacent numbers in the series is increment, not a constant.

7. P.
1. $1 + 3 + 5 + 7 \dots + 199$
2. $1 + 1/2 + 1/3 + 1/4 + \dots + 1/100$
3. $1 + 2 + 4 + 8 + \dots + 256$
4. $1/2 + 2/3 + 3/4 + 4/5 + \dots + 19/20$
5. $1^2 + 2^2 + 3^2 + 4^2 + \dots + 100^2$