

Magdalen College School Oxford: 13+ Maths Scholarship Paper 2



School: Magdalen College School

Subject: Maths

Level: 13+

Time: 60 mins

Type: Scholarship Paper 2

Year in use: Undated Pre-2014 (last checked Oct 2014)

Q 

Answer 

Solution 

1.

(a) $10x - 0.1 = 8.9$

(b) £0.9 or 90p

2. (a) 147 cm
(b) 24 cm
(c) $f = -(20/3)$
It is impossible because the length of a person's forearm cannot be negative.

3. (a) Yes
(b) Yes
(c) No, because if $n = 41$, the answer would be divisible by 41.
Hence the formula does not always give a prime number.

4. 16 cm

5. (a) $2/3$
(b) $3/5$
(c) $5/8$
(d) $8/13$, $13/21$
(e) Answer $(n+1)$ th term: $m/(k + m)$
Answer $(n+2)$ th term: $(k + m)/(k + 2m)$

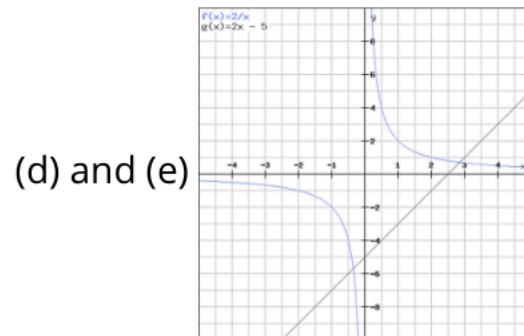
6. (a) 375 cm^3
 (b) 350 cm^2
 (c) 19.14 cm

7. $r = ac/(a + b + c)$

(a)

x	-3	-2	-1	-0.5	-0.25	0.25	0.5	1	2	3
y = 2/x	-2/3	-1	-2	-4	-8	8	4	8	1	2/3

8. (b) Error
 (c) The curve does not cross the y-axis when $x = 0$



- (f) 2.8 and -0.4 (both estimations)
 (g) $2x^2 - 5x - 2 = 0$