

SCHOOL:

Eastern Final Mathematical Challenge 2010

Answers Round 1 (60 marks)

A1

1. 4 (3 marks)
2. 30 (3 marks)
3. $\frac{4}{9}$ (3 marks)
4. $x = 8$ (3 marks)
5. 15 or -10 (3 marks)

(bonus 2 marks for both)

B1

6. 4950 (3 marks)
7. 24 (3 marks)
8. 162cm^3 (3 marks -1 no units)
9. $\cos \theta = \frac{5}{13}$ (3 marks)
10. 100% (3 marks)

A2

11. 16, 64, 100 (3 marks)
12. 21 (3 marks)
13. $\frac{15}{16}$ (3 marks)
14. $r = \frac{1}{2}(p+q)$ (3 marks)
15. 3 (3 marks)

B2

16. 1:1 (3 marks)
17. 393 miles (3 marks)
18. $\frac{3}{8}$ (3 marks)
19. 66 (3 marks)
20. $4+4 \times 2$ (3 marks)

(Total 60 + 2 possible bonus marks)