

**M1.**

(a)  $y = \tan x$

B1

(b)  $y = 2^x$

B1

[2]

**M2.(a)** 120

B1

(b) 240 or 300

*Either value*

B1

[2]

**M3.**

(a) 6

B1

(b) At least 8 of the 11 given points plotted correctly ( $\pm \frac{1}{2}$  square)

M1

Smooth curve passing through ( $\pm 1$  square) all 11 given points*Ignore the point at  $t = 12$  even if incorrect*

A1

(c) Smallest  $t$  value for  $d = 9$  attempted using their graph  
(= approx 2.5)

*eg horizontal line drawn from (0,9) to first point of  
intersection with**their graph or mark on  $t$  - axis corresponding to first time*

when  $d = 9$

M1

12.00 + their 2.5 written as a time of day

oe

ft their  $t$  value ( $\pm \frac{1}{2}$  square)

SC1 M0 but final answer follows through from their graph

A1ft

(d) Largest  $t$  value for  $d = 9$  attempted using their graph (= approx 9.5)

eg horizontal line drawn from (0,9) to second point of intersection

with their graph **or**

mark on  $t$ -axis corresponding to second time when  $d =$

9

M1

Their 9.5 – 4.25 (= 5.25)

Condone their 9.5 – 4.15

M1Dep

5 h 15 min

ft their  $t$  value ( $\pm \frac{1}{2}$  square) but do not follow through from use of 4.15

SC2 M0 but final answer follows through from their graph

A1ft

[8]

**M4.**

(a) C

Do not allow if more than one answer selected

B1

(b) A

Do not allow if more than one answer selected

B1

[2]