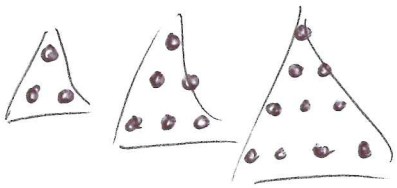
M6 =24 days to go!



1 Part of the sequence of triangular numbers is shown.

… 21, 28, 36, 45, 55, 66 … 78, 92, 106

6 7 8 9 10 11 12 13 14

(a) Which triangular number comes directly before 21?

Answer 15 [1]

(b) Write down the smallest triangular number which is greater than 100

Answer 106 [1]

Guess & Check

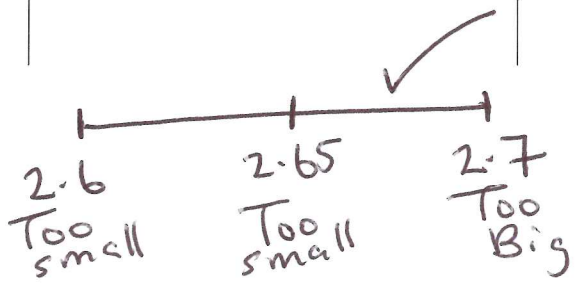
15 Use trial and improvement to solve the equation $x^3 - 3x = 11$

Give your answer correct to one decimal place.

Target.

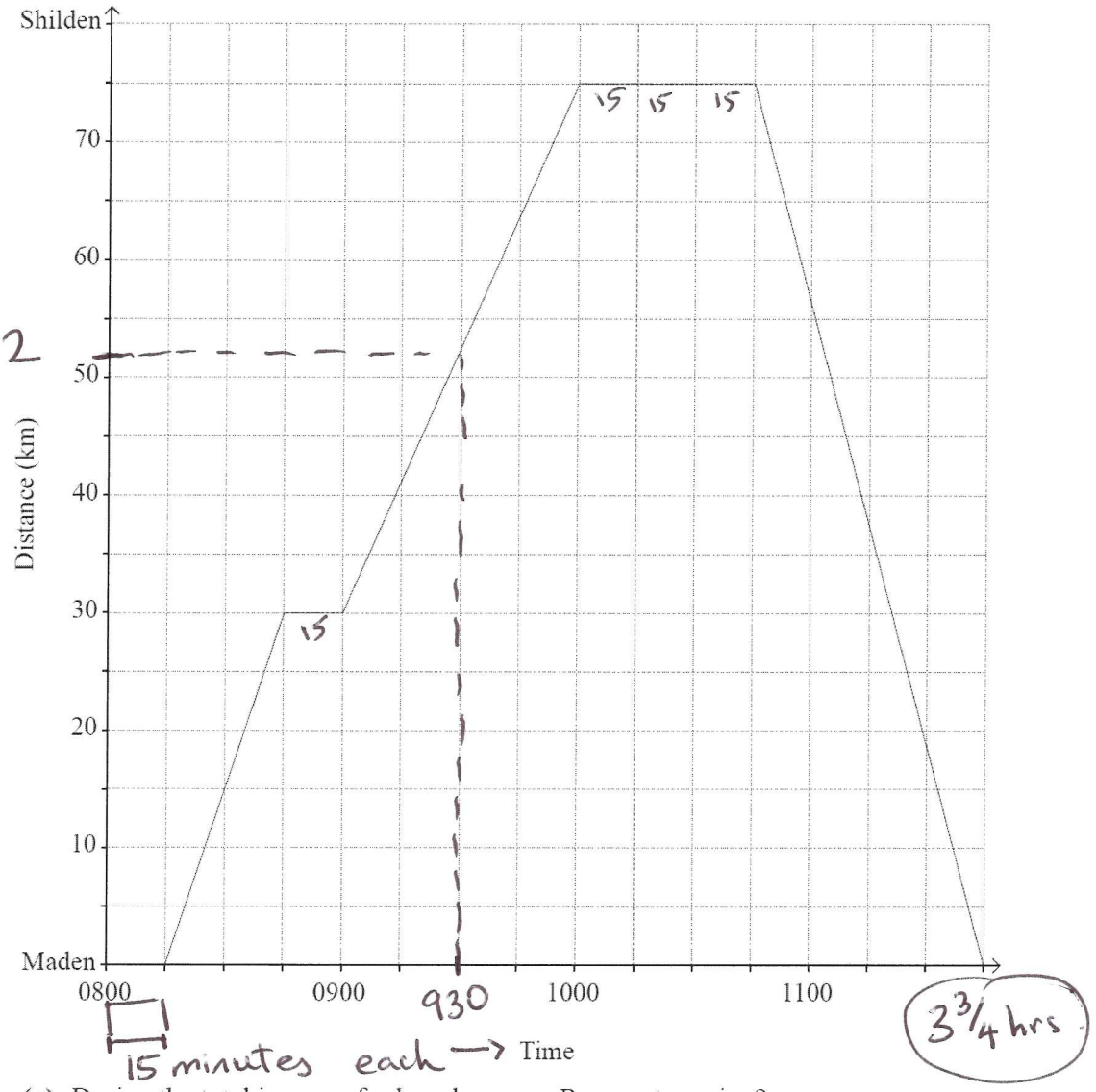
You must show your working

x	$x^3 - 3x$	
3	$3^3 - 3\times3 = 18$	Too Big
2	$2^3 - 3\times2 = 2$	Too Small
2.5	$2.5^3 - 3\times2.5 = 8.125$	Too Small
2.6	$2.6^3 - 3\times2.6 = 9.776$	Too Small
2.7	$2.7^3 - 3\times2.7 = 11.583$	Too Big
2.65	$2.65^3 - 3\times2.65 = 10.660$	Too Small



Ans 2.7

7 The graph shows Ryan's journey from Maden to Shilden and back to Maden.



(a) During the total journey, for how long was Ryan not moving?

Answer 60 minutes [1]

(b) How far is Ryan from Maden at 0930?

Answer 52 km [1]

(c) Calculate the average speed for the whole journey.

State the units of your answer.

70 km out
70 km back

140 km in 3¾ hrs

speed = $\frac{140}{3.75}$ = 37⅓

Answer 37⅓ km/hr [3]