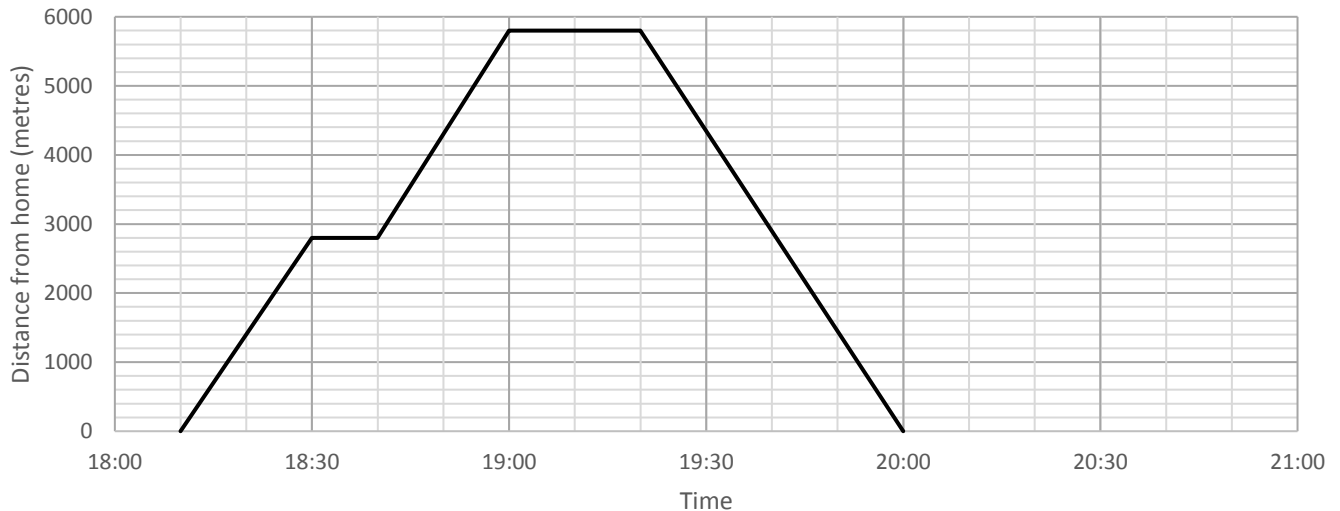


**HIGHER TIER
MINI PRACTICE EXAM 11**

**CALCULATOR ALLOWED
20 MINUTES ALLOWED**

1.
Faye went for a run.
The distance-time graph below shows her journey.



- (a) What time did Faye leave home? (1)
- (b) How many minutes did Faye spend resting during the run? (1)
- (c) How many metres did Faye run in total? (1)
- (d) Work out Faye's average speed between 19:20 and 20:00, in kilometres per hour. (2)
- Faye's housemate, Lisa, also went for a run.
She left home at 18:50, ran 4,000 metres in 30 minutes before stopping for a 20-minute rest.
She then ran back home at an average speed of 4.8 kilometres per hour.
- (e) Use the information to plot Lisa's run on the same axis. (3)
- (f) What time did Lisa return home? (1)

2.

An iterative formula, U_n , is given by the formula $U_{n+1} = 2U_n^2 + 3U_n$.

Given that $U_1 = -1$, find U_{100} .

(2)

3.

$e \propto r^2$.

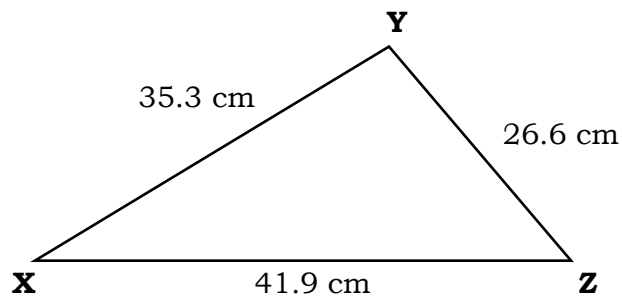
e	960		6750
r	4	9	

Complete the table.

(4)

4.

Find the area of the triangle XYZ, to the nearest square centimetre.



(5)