For Examiner's Use

1 **(a)** One day, Maria took 27 minutes to walk 1.8 km to school.
She left home at 0748.

(i) Write down the time Maria arrived at school.

07.48
00.27 +
07.75
= 08.15

Answer(a)(i) 08.15 [1]

(ii) Show that Maria's average walking speed was 4 km/h.

Answer(a)(ii)

Speed = Distance / Time
= 1.8 km / 9/20 h
= 1.8 ÷ 9/20
= 1.8 × 20/9
= 4 km/h

27 min = 27/60 h
= 27 ÷ 3 / 60 ÷ 3
= 9/20 h

[2]

(b) Another day, Maria cycled the 1.8 km to school at an average speed of 15 km/h.

(i) Calculate the percentage **increase** that 15 km/h is on Maria's walking speed of 4 km/h.

15 − 4 = 11

11/4 × 100 % = 275 %

Answer(b)(i) 275 % [3]

(ii) Calculate the percentage **decrease** that Maria's cycling time is on her walking time of 27 minutes.

Time = Distance / Speed
= 1.8 km / 15 km/h
= 0.12 h
= 0.12 × 60
= 7.2 min

27 − 7.2 = 19.8 min

19.8/27 × 100 % = 73.3... %

Answer(b)(ii) 73.3... % [3]