

Question	Answer	Marks	Guidance
(a)	$H_0: \mu = 25.5$ $H_1: \mu < 25.5$	B1	
	$\frac{23.7 - 25.5}{5.2 \div \sqrt{40}}$	M1	Must have $\sqrt{40}$
	$= -2.189$	A1	
	'2.189' < 2.326	M1	For valid comparison For two-tailed test: allow compare 2.576 if $H_1: \mu \neq 25.5$
	[Accept H_0] No evidence that mean time has decreased	A1 FT	In context, not definite, no contradictions FT <i>their</i> 2.189 but no FT for two-tailed test N.B. Use of two-tailed test can score max B0 M1 A1 M1 A0 Condone use of critical value method (23.59 M1 A1 and $23.7 > 23.59$ M1 A1 correct conclusion or 25.612 M1 A1 and $25.5 < 25.612$ M1 A1 with correct conclusion)
		5	
(b)	No, because H_0 was not rejected	B1 FT	FT <i>their</i> conclusion in (a)
		1	