

JOB SHEET

Jenis Kerja	Unjuk Kinerja Peserta Diklat	Waktu (menit)
Persiapan Kerja	Siapkan : 1. Kertas jawaban disiapkan 2. pulpen. 3. kalkulator.	Total 5
Langkah Kerja	1. kertas soal dan jawaban ditempatkan pada meja. 2. Mengerjakan soal dengan tertib. .	5 45
Hasil Kerja	Mengerjakan soal dilengkapi dengan jawaban yang benar.	
Waktu Kerja	1. Persiapan kerja dilakukan dalam waktu 5 menit 2. Mengerjakan soal sesuai dengan jobsheet dilakukan dalam waktu 45 menit	
Total Waktu		120

SOAL

1. A 2 in diameter bar of steel was turned at 284 rpm and tool failure occurred in 10 min. the speed was changed to 232 rpm and the tool failed in 60 min of cutting time. Assuming a straight-line relationship exists, what cutting speed should be used to obtain a 30 min tool life (V_{30}) ?
2. The following equation has been obtained when machining AISI 2340 steel with HSS cutting tools having a 8,22,6,6,6,15,3/64 tol signature :

$$2,035 = VT^{0,13}f^{0,77}d^{0,37}$$

A 100 min tool life was obtained using the following cutting conditions :

$$V = 75 \text{ fpm}, f = 0,0125 \text{ ipr}, d = 0,100 \text{ in}$$

Calculate the effect upon the tool life for 20 % increase in the cutting speed, feed, and depth of cut, taking each separately. Calculate the effect of 20 % increase in each of the above parameters taken together.

- a. when $V = 1,2 \times 75 = 90 \text{ fpm}$
- b. when $f = 0,0125 \times 1,2 = 0,015 \text{ ipr}$
- c. when $d = 1,2 \times 0,100 = 0,120 \text{ in}$
- d. when $V = 90 \text{ fpm}, f = 0,014 \text{ ipr}, d = 0,120 \text{ in}$.

