

113 學年度秋季班機械工程學系機械產業碩士專班 筆試題目

系所：機械工程學系 考試科目：靜力學 考試日期：0413 第1頁，共1頁

※ 考生請注意：本試題可使用計算機。請於答案卷作答，於本試題紙上作答者，不予計分。

1. Evaluate the expression $E=3 \sin^2\theta \tan\theta \cos\theta$ for $\theta=2^\circ$. Then, utilize the small-angle assumptions and recompute the result. (50%)
2. Determine the tension T in the cable supporting the 500-kg mass using the illustrated pulley arrangement. Each pulley is freely rotatable in terms of its bearing, and the weights of all components are negligible compared to the load. Find the magnitude of the total force acting on the bearing of pulley C. (50%)

