For this problem, assume that Joe has $80 to spend on books and movies each month and that both goods must be purchased whole (no fractional units). Movies cost $8 each and books cost $20 each. Joe’s preferences for movies and books are summarized by the following information:

MOVIES BOOKS

NO. PER MONTH TU MU MU/$ NO. PER MONTH TU MU MU/$

1 50 \_ \_ 1 22 \_ \_

2 80 \_ \_ 2 42 \_ \_

3 100 \_ \_ 3 52 \_ \_

4 110 \_ \_ 4 57 \_ \_

5 116 \_ \_ 5 60 \_ \_

6 121 \_ \_ 6 62 \_ \_

7 123 \_ \_ 7 63 \_ \_

a) Fill in the figures for marginal utility and marginal utility per dollar for both movies and books.

b) Are these preferences consistent with the law of diminishing marginal utility? Explain briefly.

c) Given the budget of $80, what quantity of books and what quantity of movies will maximize Joe’s level of satisfaction? Explain briefly.