

Write a quantified formula for the proposition

Every class meets at least twice a week.

Use the relation $M(c, d)$ to represent “class c meets on day d ”. You may also use equality.

Solution: For a given class c , the proposition posits the existence of two distinct days d and d' such that c meets on both d and d' . We can write this as

$$\forall c \exists d, d' : M(c, d) \text{ AND } M(c, d') \text{ AND } (\text{NOT } d = d').$$