MAT 243 Online Written Homework Assignments for Week 1 (units 1-3)

1	2	3	4
D	C	A	TFTFF

5. (A) If I don't smoke, then I'll live to the age of 120.
    (B) If there are rainbows, then the rain is necessary.
    (C) If one can see the stars, then the sky is clear.
    (D) If we don't develop nuclear power sources, then we will never go to Mars.

6. $\neg(\exists x \forall y \exists z(xy \leq z))$

    $\forall x \neg(\forall y \exists z(xy \leq z))$

    $\forall x \exists y \neg(\exists z(xy \leq z))$

    $\forall x \exists y \forall z(\neg(xy \leq z))$

    $\forall x \exists y \forall z \neg(xy \leq z)$

7.
    a. There is a human who is at least the same height or taller than the rest of the human population.   True
    b. There is a smartest student in this university.   True

8. $(p \wedge q) \rightarrow (p \vee q)$

p	q	$(p \wedge q)$	$(p \vee q)$	$(p \wedge q) \rightarrow (p \vee q)$
T	T	T	T	T
T	F	F	T	T
F	T	F	T	T
F	F	F	F	T