

Math M118 Practice Final Exam Answers

1. $[(p \rightarrow q) \wedge \neg p] \rightarrow \neg q$

Not a valid logical argument since the truth table shows that it is not a tautology.

2. last column F
 F
 T
 T

3. last column F
 T
 T
 T

4a. $\neg p \wedge q$

4b. $p \rightarrow q$

4c. $\neg(p \vee q)$ or $\neg p \wedge \neg q$

4d. $\neg q \rightarrow \neg p$

5a. $\{2, 5, 6, 9, 10\}$

5b. $\{5, 9\}$

6a. True

6b. True

6c. False

6d. True

7. 62

8. 97,020

9. 9240

10. d

11a. 90

11b. 147

12. 199

13. 0.2381

14. 0.25

15. 0.2076

16. 0.8999

17. 0.66

18. 0.2

19a. 3.2

19b. 1.4697

20. 20 cents

21. 400

22. 8.6603

23. 0.6853

24. 0.9357

25. 0.7191

26. d

27. $\begin{bmatrix} 39 & 29 & -11 \\ 17 & 6 & -1 \end{bmatrix}$

28. $\begin{bmatrix} -9 & 6 \\ 1 & 6 \end{bmatrix}$

29. $(-1, 2, 3)$

30. 0.46

31a. irreducible and regular

31b. not irreducible, not regular

32a. $T = \begin{bmatrix} 0.6 & 0.2 & 0.2 \\ 0.6 & 0 & 0.4 \\ 0.4 & 0.1 & 0.5 \end{bmatrix}$

32b. 0.52

32c. $[0.56 \quad 0.12 \quad 0.32]$

33a. 0.36

33b. $[4/11 \quad 7/11]$