

Spot any errors (compared with an error-free table).

1.

| P | Q | R | $R \vee R$ | $P \supset Q$ | $\neg R$ | $(R \vee R) \vee \neg R$ | $[(R \vee R) \vee \neg R] \wedge R$ | $\{[(R \vee R) \vee \neg R] \wedge R\} \vee (P \supset Q)$ |
|-----|-----|-----|------------|---------------|----------|--------------------------|-------------------------------------|--|
| T | T | T | T | T | F | T | T | T |
| F | T | T | T | T | F | T | T | T |
| T | F | T | T | F | F | T | T | T |
| F | F | T | T | T | F | T | T | T |
| T | T | (T) | F | T | T | T | F | T |
| F | T | F | F | T | T | T | F | T |
| T | F | F | F | F | T | T | F | F |
| F | F | F | F | T | T | T | F | T |

2.

| P | R | $P \wedge R$ | $\neg P$ | $\neg R$ | $\neg R \supset \neg P$ | $\neg(P \wedge R)$ | $(\neg R \supset \neg P) \supset \neg(P \wedge R)$ |
|-----|-----|--------------|----------|----------|-------------------------|--------------------|--|
| T | T | T | F | F | T | F | F |
| F | T | F | T | (T) | T | T | T |
| T | F | F | F | T | F | (F) | T |
| F | F | F | T | T | T | T | (F) |

3.

| P | Q | R | $P \vee Q$ | $P \wedge R$ | $\neg R$ | $\neg R \supset (P \wedge R)$ | $\neg(P \vee Q)$ | $\neg(P \vee Q) \wedge [\neg R \supset (P \wedge R)]$ |
|-----|-----|-----|------------|--------------|----------|-------------------------------|------------------|---|
| T | (F) | T | T | T | F | T | F | F |
| F | T | T | T | F | F | T | F | F |
| T | (T) | T | T | T | F | T | F | F |
| F | F | (F) | F | F | F | T | T | T |
| T | T | F | T | F | T | F | F | F |
| F | T | F | T | F | T | F | F | F |
| T | F | F | T | F | T | F | F | F |
| F | F | F | F | F | (F) | F | (F) | F |

4.

| P | Q | $P \supset Q$ | $\neg P$ | $\neg Q$ | $\neg P \wedge Q$ | $(\neg P \wedge Q) \vee (P \supset Q)$ | $[(\neg P \wedge Q) \vee (P \supset Q)] \wedge \neg Q$ |
|-----|-----|---------------|----------|----------|-------------------|--|--|
| T | T | T | F | F | (T) | T | F |
| (T) | T | T | T | F | T | (F) | F |
| (F) | F | (T) | F | T | F | F | F |
| (T) | F | (F) | T | T | F | T | T |

5.

| P | Q | $\neg P$ | $\neg Q$ | $\neg P \supset \neg Q$ |
|-----|-----|----------|----------|-------------------------|
| T | T | F | F | T |
| F | T | (F) | F | (T) |
| T | (T) | F | T | T |
| (T) | F | T | T | T |

6.

| P | Q | R | $P \vee Q$ | $R \wedge R$ | $\neg Q$ | $\neg Q \wedge (R \wedge R)$ | $\neg(P \vee Q)$ | $[\neg Q \wedge (R \wedge R)] \wedge \neg(P \vee Q)$ |
|-------------------|-----|-------------------|-------------------|-------------------|----------|------------------------------|------------------|--|
| T | T | T | \textcircled{F} | T | F | F | F | F |
| F | T | T | \textcircled{F} | T | F | F | F | F |
| T | F | T | T | T | T | T | F | F |
| F | F | T | F | T | T | T | T | T |
| T | T | F | T | F | F | F | F | F |
| \textcircled{T} | T | F | T | \textcircled{T} | F | F | F | F |
| T | F | \textcircled{T} | T | F | T | F | F | F |
| F | F | F | F | F | T | F | T | F |

7.

| Q | R | $Q \vee Q$ | $Q \vee R$ | $R \wedge Q$ | $(Q \vee R) \supset (Q \vee Q)$ | $\neg[(Q \vee R) \supset (Q \vee Q)]$ | $\neg[(Q \vee R) \supset (Q \vee Q)] \supset (R \wedge Q)$ |
|-------------------|-------------------|------------|-------------------|--------------|---------------------------------|---------------------------------------|--|
| T | \textcircled{F} | T | T | T | T | F | T |
| F | \textcircled{F} | F | \textcircled{F} | F | F | T | F |
| \textcircled{F} | F | T | \textcircled{F} | F | T | F | T |
| F | \textcircled{T} | F | F | F | T | \textcircled{T} | T |

8.

| P | Q | R | $P \vee P$ | $Q \wedge R$ | $\neg R$ | $\neg R \vee (Q \wedge R)$ | $[\neg R \vee (Q \wedge R)] \wedge (P \vee P)$ | $\neg\{[\neg R \vee (Q \wedge R)] \wedge (P \vee P)\}$ |
|-----|-----|-----|------------|-------------------|----------|----------------------------|--|--|
| T | T | T | T | T | F | T | T | F |
| F | T | T | F | T | F | T | F | T |
| T | F | T | T | F | F | F | F | T |
| F | F | T | F | F | F | F | F | T |
| T | T | F | T | \textcircled{T} | T | T | T | F |
| F | T | F | F | F | T | T | F | T |
| T | F | F | T | F | T | T | T | F |
| F | F | F | F | F | T | T | F | T |

9.

| P | Q | R | $Q \vee P$ | $R \wedge Q$ | $(R \wedge Q) \wedge R$ | $P \wedge (Q \vee P)$ | $\neg[(R \wedge Q) \wedge R]$ | $[P \wedge (Q \vee P)] \supset \neg[(R \wedge Q) \wedge R]$ |
|-----|-------------------|-----|------------|-------------------|-------------------------|-----------------------|-------------------------------|---|
| T | T | T | T | \textcircled{F} | \textcircled{F} | T | F | F |
| F | T | T | T | T | \textcircled{F} | \textcircled{T} | F | T |
| T | \textcircled{T} | T | T | F | F | T | T | T |
| F | F | T | F | F | \textcircled{T} | F | T | T |
| T | T | F | T | F | F | T | T | T |
| F | T | F | T | F | F | F | T | \textcircled{F} |
| T | F | F | T | F | F | \textcircled{F} | T | T |
| F | F | F | F | F | F | F | T | T |

10.

| P | Q | R | $R \vee P$ | $\neg Q$ | $\neg Q \supset P$ | $(\neg Q \supset P) \wedge (R \vee P)$ | $\neg[(\neg Q \supset P) \wedge (R \vee P)]$ | $\neg\neg[(\neg Q \supset P) \wedge (R \vee P)]$ |
|-----|-----|-------------------|-------------------|----------|--------------------|--|--|--|
| T | T | T | T | F | T | T | F | T |
| F | T | T | T | F | T | T | \textcircled{T} | T |
| T | F | \textcircled{F} | T | T | T | T | F | T |
| F | F | T | \textcircled{F} | T | F | F | T | F |
| T | T | \textcircled{T} | T | F | T | T | F | T |
| F | T | F | F | F | T | F | T | F |
| T | F | F | T | T | T | T | F | \textcircled{F} |
| F | F | F | F | T | F | F | T | F |

11.

| P | Q | R | $P \vee P$ | $Q \vee R$ | $(P \vee P) \wedge R$ | $\neg(Q \vee R)$ | $Q \vee \neg(Q \vee R)$ | $[Q \vee \neg(Q \vee R)] \wedge [(P \vee P) \wedge R]$ |
|-----|-----|-------------------|-------------------|-------------------|-----------------------|-------------------|-------------------------|--|
| T | T | T | T | T | T | F | T | T |
| F | T | T | F | T | F | F | T | F |
| T | F | \textcircled{F} | T | \textcircled{F} | \textcircled{F} | \textcircled{T} | F | F |
| F | F | T | F | T | F | F | F | F |
| T | T | F | T | T | F | F | T | F |
| F | T | F | F | T | F | F | T | F |
| T | F | F | T | F | F | T | T | F |
| F | F | \textcircled{T} | \textcircled{T} | F | F | T | T | F |

12.

| P | Q | R | $Q \vee R$ | $R \supset P$ | $\neg R$ | $\neg R \supset (R \supset P)$ | $[\neg R \supset (R \supset P)] \vee Q$ | $\{[\neg R \supset (R \supset P)] \vee Q\} \vee (Q \vee R)$ |
|-----|-----|-----|------------|---------------|-------------------|--------------------------------|---|---|
| T | T | T | T | T | F | T | T | T |
| F | T | T | T | F | F | T | T | T |
| T | F | T | T | T | \textcircled{T} | T | T | T |
| F | F | T | T | F | F | T | T | T |
| T | T | F | T | T | \textcircled{F} | T | T | T |
| F | T | F | T | T | T | T | T | T |
| T | F | F | F | T | T | T | T | T |
| F | F | F | F | T | T | T | T | T |

13.

| P | Q | R | $P \supset R$ | $R \wedge Q$ | $P \vee (P \supset R)$ | $\neg(R \wedge Q)$ | $[P \vee (P \supset R)] \wedge R$ | $\{[P \vee (P \supset R)] \wedge R\} \wedge \neg(R \wedge Q)$ |
|-------------------|-----|-------------------|---------------|--------------|------------------------|--------------------|-----------------------------------|---|
| T | T | T | T | T | T | F | T | F |
| F | T | \textcircled{F} | T | T | T | F | \textcircled{F} | F |
| T | F | T | T | F | T | T | T | T |
| F | F | T | T | F | T | T | T | T |
| T | T | F | F | F | \textcircled{F} | T | F | F |
| F | T | F | T | F | \textcircled{F} | T | F | F |
| T | F | F | F | F | \textcircled{F} | T | F | F |
| \textcircled{T} | F | F | T | F | T | T | \textcircled{T} | F |

14.

| P | R | $R \supset P$ | $P \wedge P$ | $(P \wedge P) \supset P$ | $P \supset (R \supset P)$ | $[(P \wedge P) \supset P] \vee [P \supset (R \supset P)]$ | $\neg\{[(P \wedge P) \supset P] \vee [P \supset (R \supset P)]\}$ |
|-------------------|-----|---------------|-------------------|--------------------------|---------------------------|---|---|
| T | T | T | T | \textcircled{F} | T | T | \textcircled{T} |
| F | T | F | F | T | T | T | F |
| \textcircled{F} | F | T | T | T | T | T | F |
| F | F | T | \textcircled{T} | T | T | \textcircled{F} | F |

15.

| P | Q | R | $Q \vee P$ | $\neg Q$ | $\neg R$ | $\neg Q \supset (Q \vee P)$ | $[\neg Q \supset (Q \vee P)] \supset \neg R$ | $\neg\{[\neg Q \supset (Q \vee P)] \supset \neg R\}$ |
|-----|-----|-----|------------|----------|----------|-----------------------------|--|--|
| T | T | T | T | F | F | T | F | T |
| F | T | T | T | F | F | T | F | T |
| T | F | T | T | T | F | T | F | T |
| F | F | T | F | T | F | F | T | \textcircled{T} |
| T | T | F | T | F | T | T | T | F |
| F | T | F | T | F | T | T | T | F |
| T | F | F | T | T | T | T | T | F |
| F | F | F | F | T | T | F | T | F |

16.

| P | Q | R | $Q \wedge P$ | $R \wedge R$ | $\neg P$ | $\neg(Q \wedge P)$ | $(R \wedge R) \supset \neg(Q \wedge P)$ | $[(R \wedge R) \supset \neg(Q \wedge P)] \supset \neg P$ |
|-----|-----|-----|-------------------|-------------------|----------|--------------------|---|--|
| T | T | T | T | T | F | F | F | T |
| F | T | T | F | T | T | T | T | T |
| T | F | T | F | T | F | T | T | F |
| F | F | T | F | T | T | T | \textcircled{F} | T |
| T | T | F | T | F | F | F | T | F |
| F | T | F | \textcircled{T} | \textcircled{T} | T | T | T | T |
| T | F | F | F | F | F | T | T | F |
| F | F | F | F | F | T | T | T | T |

17.

| Q | R | $R \supset R$ | $R \wedge Q$ | $\neg(R \wedge Q)$ | $\neg(R \wedge Q) \vee (R \supset R)$ | $\neg[\neg(R \wedge Q) \vee (R \supset R)]$ | $\neg\neg[\neg(R \wedge Q) \vee (R \supset R)]$ |
|-------------------|-----|-------------------|--------------|--------------------|---------------------------------------|---|---|
| \textcircled{F} | T | T | T | F | T | F | \textcircled{F} |
| F | T | T | F | T | T | F | T |
| T | F | \textcircled{F} | F | T | T | F | T |
| F | F | T | F | T | T | F | T |

18.

| P | R | $P \wedge R$ | $\neg(P \wedge R)$ |
|-----|-------------------|-------------------|--------------------|
| T | T | T | F |
| F | \textcircled{F} | \textcircled{T} | \textcircled{F} |
| T | F | F | T |
| F | \textcircled{T} | F | T |

19.

| Q | R | $Q \vee Q$ | $R \wedge Q$ | $\neg Q$ | $(R \wedge Q) \supset Q$ | $(Q \vee Q) \wedge \neg Q$ | $[(R \wedge Q) \supset Q] \wedge [(Q \vee Q) \wedge \neg Q]$ |
|-----|-------------------|------------|--------------|----------|--------------------------|----------------------------|--|
| T | T | T | T | F | T | F | F |
| F | \textcircled{F} | F | F | T | \textcircled{F} | F | F |
| T | F | T | F | F | \textcircled{F} | F | F |
| F | \textcircled{T} | F | F | T | T | F | F |

20.

| P | Q | R | $R \vee Q$ | $Q \wedge P$ | $\neg R$ | $(Q \wedge P) \vee \neg R$ | $\neg(R \vee Q)$ | $\neg(R \vee Q) \wedge [(Q \wedge P) \vee \neg R]$ |
|-------------------|-----|-------------------|-------------------|--------------|----------|----------------------------|------------------|--|
| \textcircled{F} | T | T | T | T | F | T | F | F |
| F | T | T | \textcircled{F} | F | F | \textcircled{T} | F | F |
| T | F | T | T | F | F | F | F | F |
| F | F | T | T | F | F | F | F | F |
| T | T | \textcircled{T} | T | T | T | T | F | F |
| F | T | F | T | F | T | T | F | F |
| T | F | F | F | F | T | T | T | T |
| F | F | F | F | F | T | T | T | T |

21.

| P | Q | R | $R \vee P$ | $P \supset Q$ | $(R \vee P) \wedge R$ | $[(R \vee P) \wedge R] \wedge (P \supset Q)$ | $\neg\{[(R \vee P) \wedge R] \wedge (P \supset Q)\}$ | $\neg\neg\{[(R \vee P) \wedge R] \wedge (P \supset Q)\}$ |
|-----|-----|-------------------|-------------------|---------------|-----------------------|--|--|--|
| T | T | T | T | T | T | T | \textcircled{T} | T |
| F | T | T | T | T | T | T | \textcircled{T} | T |
| T | F | T | T | F | \textcircled{F} | F | T | F |
| F | F | T | T | T | T | \textcircled{F} | F | T |
| T | T | F | T | T | F | F | T | \textcircled{T} |
| F | T | F | F | T | F | F | T | F |
| T | F | \textcircled{T} | T | F | F | F | T | F |
| F | F | F | \textcircled{T} | T | \textcircled{T} | F | T | F |

22.

| P | Q | R | $Q \wedge Q$ | $\neg P$ | $\neg R$ | $(Q \wedge Q) \wedge \neg P$ | $Q \wedge \neg R$ | $(Q \wedge \neg R) \vee [(Q \wedge Q) \wedge \neg P]$ |
|-------------------|-------------------|-----|--------------|-------------------|----------|------------------------------|-------------------|---|
| T | T | T | T | F | F | F | F | F |
| F | T | T | T | T | F | T | \textcircled{T} | T |
| T | \textcircled{T} | T | F | F | F | F | F | F |
| \textcircled{T} | F | T | F | T | F | F | F | \textcircled{T} |
| T | T | F | T | F | T | F | T | T |
| F | T | F | T | T | T | T | T | \textcircled{F} |
| T | F | F | F | \textcircled{T} | T | \textcircled{T} | F | F |
| F | F | F | F | T | T | F | F | F |

23.

| P | Q | R | $Q \supset P$ | $R \wedge R$ | $\neg R$ | $(Q \supset P) \supset \neg R$ | $(R \wedge R) \vee [(Q \supset P) \supset \neg R]$ | $\neg\{(R \wedge R) \vee [(Q \supset P) \supset \neg R]\}$ |
|-----|-------------------|-------------------|---------------|--------------|----------|--------------------------------|--|--|
| T | T | T | T | T | F | F | T | F |
| F | T | T | F | T | F | T | \textcircled{F} | F |
| T | F | T | T | T | F | F | T | F |
| F | F | T | T | T | F | F | \textcircled{F} | \textcircled{T} |
| T | T | F | T | F | T | T | T | F |
| F | \textcircled{F} | F | F | F | T | T | T | F |
| T | F | F | T | F | T | T | T | F |
| F | F | \textcircled{T} | T | F | T | \textcircled{F} | T | F |

24.

| P | Q | R | $P \vee Q$ | $P \supset R$ | $\neg Q$ | $(P \supset R) \supset P$ | $\neg Q \wedge (P \vee Q)$ | $[\neg Q \wedge (P \vee Q)] \wedge [(P \supset R) \supset P]$ |
|-----|-----|-------------------|------------|---------------|-------------------|---------------------------|----------------------------|---|
| T | T | T | T | T | F | T | F | F |
| F | T | T | T | T | F | F | F | F |
| T | F | \textcircled{F} | T | T | T | T | T | T |
| F | F | T | F | T | T | F | F | F |
| T | T | F | T | F | \textcircled{T} | T | F | \textcircled{T} |
| F | T | F | T | T | F | F | F | F |
| T | F | \textcircled{T} | T | F | T | T | T | T |
| F | F | F | F | T | T | F | F | F |

25.

| P | Q | R | $P \vee R$ | $P \supset Q$ | $P \wedge (P \supset Q)$ | $\neg(P \vee R)$ | $\neg\neg(P \vee R)$ | $\neg\neg(P \vee R) \supset [P \wedge (P \supset Q)]$ |
|-------------------|-----|-----|------------|---------------|--------------------------|------------------|----------------------|---|
| T | T | T | T | T | T | F | T | T |
| \textcircled{T} | T | T | T | T | F | F | T | F |
| T | F | T | T | F | F | F | T | F |
| F | F | T | T | T | T | F | T | F |
| T | T | F | T | T | T | F | T | T |
| F | T | F | T | T | F | T | F | T |
| T | F | F | F | F | F | T | T | F |
| F | F | F | F | T | F | T | F | T |

26.

| P | Q | R | $P \supset R$ | $\neg Q$ | $(P \supset R) \vee P$ | $\neg\neg Q$ | $[(P \supset R) \vee P] \supset P$ | $\neg\neg Q \wedge \{[(P \supset R) \vee P] \supset P\}$ |
|-------------------|-------------------|-----|---------------|-------------------|------------------------|-------------------|------------------------------------|--|
| T | T | T | T | F | T | \textcircled{F} | T | T |
| F | T | T | T | F | T | T | F | F |
| T | F | T | T | T | T | F | T | F |
| F | F | T | T | T | T | F | F | F |
| T | T | F | F | F | T | T | T | T |
| \textcircled{T} | \textcircled{F} | F | T | F | T | T | F | F |
| T | F | F | F | T | T | F | \textcircled{F} | F |
| F | F | F | T | \textcircled{F} | T | F | F | F |

27.

| P | R | $R \supset P$ | $\neg R$ | $(R \supset P) \wedge \neg R$ | $\neg[(R \supset P) \wedge \neg R]$ | $\neg\neg[(R \supset P) \wedge \neg R]$ | $\neg\neg\neg[(R \supset P) \wedge \neg R]$ |
|-----|-----|---------------|----------|-------------------------------|-------------------------------------|---|---|
| T | T | T | F | F | (F) | F | T |
| F | T | F | F | F | (F) | (T) | T |
| T | F | (F) | T | T | F | T | (T) |
| F | F | T | T | (F) | F | T | (T) |

28.

| P | Q | R | $P \wedge R$ | $Q \wedge P$ | $R \wedge Q$ | $(P \wedge R) \vee (Q \wedge P)$ | $\neg[(P \wedge R) \vee (Q \wedge P)]$ | $\neg[(P \wedge R) \vee (Q \wedge P)] \vee (R \wedge Q)$ |
|-----|-------|-------|--------------|--------------|--------------|----------------------------------|--|--|
| T | T | T | T | T | T | T | F | T |
| F | T | (F) | F | F | T | F | T | T |
| T | F | T | T | F | F | T | F | F |
| F | F | T | F | F | F | F | T | T |
| T | T | F | F | T | F | T | F | F |
| F | (F) | F | (T) | F | F | F | T | T |
| T | F | F | F | F | (T) | F | T | T |
| F | F | F | F | F | F | F | T | T |

29.

| P | Q | R | $R \supset P$ | $\neg Q$ | $\neg Q \vee (R \supset P)$ | $Q \supset \neg Q$ | $[\neg Q \vee (R \supset P)] \wedge (Q \supset \neg Q)$ |
|-------|-----|-------|---------------|----------|-----------------------------|--------------------|---|
| T | T | T | T | F | T | F | F |
| F | T | T | (T) | F | F | F | (T) |
| T | F | T | T | (F) | T | (F) | T |
| F | F | T | F | (F) | T | T | T |
| (F) | T | F | T | F | T | F | F |
| F | T | F | T | F | T | F | F |
| T | F | F | T | T | T | T | T |
| F | F | (T) | T | T | T | T | T |

30.

| P | $\neg P$ | $P \supset \neg P$ | $P \wedge (P \supset \neg P)$ | $\neg P \wedge [P \wedge (P \supset \neg P)]$ | $\neg\{\neg P \wedge [P \wedge (P \supset \neg P)]\}$ |
|-------|----------|--------------------|-------------------------------|---|---|
| T | F | F | F | F | T |
| (T) | T | (F) | F | F | (F) |

31.

| P | R | $P \wedge P$ | $\neg P$ | $\neg R$ | $(P \wedge P) \vee \neg P$ | $\neg R \supset [(P \wedge P) \vee \neg P]$ | $\neg\{\neg R \supset [(P \wedge P) \vee \neg P]\}$ |
|-------|-------|--------------|----------|----------|----------------------------|---|---|
| (F) | (F) | T | F | F | T | (F) | F |
| F | T | F | T | F | T | T | F |
| T | F | T | F | T | T | (F) | F |
| F | F | F | T | T | T | T | F |

32.

| P | Q | R | $R \supset R$ | $Q \wedge P$ | $\neg P$ | $(R \supset R) \vee Q$ | $[(R \supset R) \vee Q] \supset (Q \wedge P)$ | $\{[(R \supset R) \vee Q] \supset (Q \wedge P)\} \wedge \neg P$ |
|-----|-----|-----|---------------|--------------|----------|------------------------|---|---|
| T | T | T | T | (F) | F | T | T | F |
| F | T | T | T | F | T | (F) | F | (T) |
| T | F | T | T | F | F | T | F | F |
| F | F | T | T | F | (F) | (F) | F | F |
| T | T | F | T | T | F | T | T | F |
| F | T | F | T | F | T | T | F | F |
| T | F | F | T | F | F | T | F | F |
| F | F | F | T | F | (F) | T | F | (T) |

33.

| P | R | $P \vee R$ | $R \wedge R$ | $\neg R$ | $(P \vee R) \supset P$ | $\neg R \wedge (R \wedge R)$ | $[\neg R \wedge (R \wedge R)] \wedge [(P \vee R) \supset P]$ |
|-----|-----|------------|--------------|----------|------------------------|------------------------------|--|
| T | T | T | T | F | T | F | F |
| F | T | T | T | F | F | \textcircled{T} | F |
| T | F | T | F | T | T | F | F |
| F | F | F | F | T | T | F | F |

34.

| P | Q | R | $R \vee Q$ | $P \supset P$ | $R \wedge Q$ | $(R \vee Q) \supset P$ | $(R \wedge Q) \supset (P \supset P)$ | $[(R \wedge Q) \supset (P \supset P)] \vee [(R \vee Q) \supset P]$ |
|-------------------|-------------------|-----|------------|---------------|-------------------|------------------------|--------------------------------------|--|
| T | T | T | T | T | \textcircled{F} | T | T | T |
| F | T | T | T | T | T | F | T | T |
| \textcircled{F} | F | T | T | T | F | T | T | T |
| F | F | T | T | T | F | F | T | T |
| T | T | F | T | T | F | T | T | T |
| F | T | F | T | T | F | F | T | T |
| \textcircled{F} | F | F | F | T | F | T | T | T |
| F | \textcircled{T} | F | F | T | F | T | T | T |

35.

| P | Q | R | $P \wedge Q$ | $Q \wedge Q$ | $\neg R$ | $\neg R \wedge (P \wedge Q)$ | $\neg[\neg R \wedge (P \wedge Q)]$ | $\neg[\neg R \wedge (P \wedge Q)] \wedge (Q \wedge Q)$ |
|-----|-----|-----|--------------|-------------------|-------------------|------------------------------|------------------------------------|--|
| T | T | T | T | \textcircled{F} | F | F | T | T |
| F | T | T | F | T | F | F | T | T |
| T | F | T | F | \textcircled{T} | \textcircled{T} | F | T | F |
| F | F | T | F | F | F | F | T | F |
| T | T | F | T | T | T | T | F | F |
| F | T | F | F | T | T | F | T | \textcircled{F} |
| T | F | F | F | F | T | F | T | F |
| F | F | F | F | F | T | F | T | F |

36.

| P | Q | $P \wedge Q$ | $Q \wedge P$ | $\neg P$ | $(Q \wedge P) \vee (P \wedge Q)$ | $\neg P \wedge Q$ | $[(Q \wedge P) \vee (P \wedge Q)] \wedge (\neg P \wedge Q)$ |
|-------------------|-----|--------------|--------------|----------|----------------------------------|-------------------|---|
| \textcircled{F} | T | T | T | F | T | F | F |
| F | T | F | F | T | F | T | \textcircled{T} |
| \textcircled{F} | F | F | F | F | F | F | F |
| F | F | F | F | T | F | F | F |

37.

| P | Q | R | $P \vee Q$ | $P \vee R$ | $\neg P$ | $\neg P \vee R$ | $(\neg P \vee R) \supset (P \vee R)$ | $(P \vee Q) \vee [(\neg P \vee R) \supset (P \vee R)]$ |
|-----|-----|-------------------|-------------------|------------|----------|-------------------|--------------------------------------|--|
| T | T | T | T | T | F | T | T | T |
| F | T | T | T | T | T | T | T | T |
| T | F | T | T | T | F | T | T | T |
| F | F | T | \textcircled{T} | T | T | T | T | T |
| T | T | F | T | T | F | F | T | T |
| F | T | F | T | F | T | T | F | T |
| T | F | F | T | T | F | \textcircled{T} | T | T |
| F | F | \textcircled{T} | F | F | T | T | F | F |

38.

| P | R | $R \vee P$ | $\neg R$ | $\neg R \vee R$ | $\neg(R \vee P)$ | $\neg(\neg R \vee R)$ | $\neg(\neg R \vee R) \vee \neg(R \vee P)$ |
|-------------------|-----|-------------------|----------|-----------------|-------------------|-----------------------|---|
| T | T | T | F | T | F | F | F |
| F | T | T | F | T | \textcircled{T} | F | F |
| \textcircled{F} | F | \textcircled{F} | T | T | \textcircled{T} | F | F |
| \textcircled{T} | F | \textcircled{T} | T | T | T | F | T |

39.

| P | Q | R | $P \vee R$ | $Q \vee Q$ | $\neg R$ | $(Q \vee Q) \vee \neg R$ | $(P \vee R) \wedge Q$ | $[(P \vee R) \wedge Q] \supset [(Q \vee Q) \vee \neg R]$ |
|-----|-------------------|-----|------------|------------|----------|--------------------------|-----------------------|--|
| T | T | T | T | T | F | T | T | T |
| F | T | T | T | T | F | T | T | T |
| T | \textcircled{T} | T | T | F | F | F | F | T |
| F | F | T | T | F | F | F | F | T |
| T | T | F | T | T | T | T | T | T |
| F | T | F | F | T | T | T | F | T |
| T | F | F | T | F | T | T | F | T |
| F | F | F | F | F | T | T | F | T |

40.

| Q | R | $R \vee Q$ | $\neg R$ | $R \wedge \neg R$ | $\neg(R \vee Q)$ | $\neg(R \vee Q) \wedge (R \wedge \neg R)$ | $\neg[\neg(R \vee Q) \wedge (R \wedge \neg R)]$ |
|-----|-----|------------|----------|-------------------|------------------|---|---|
| T | T | T | F | F | F | F | T |
| F | T | T | F | F | F | \textcircled{T} | T |
| T | F | T | T | F | F | F | T |
| F | F | F | T | F | T | F | T |

41.

| P | R | $R \vee P$ | $\neg R$ | $\neg R \supset P$ | $(R \vee P) \wedge \neg R$ | $(\neg R \supset P) \supset [(R \vee P) \wedge \neg R]$ |
|-----|-------------------|-------------------|----------|--------------------|----------------------------|---|
| T | T | \textcircled{F} | F | T | F | F |
| F | \textcircled{F} | T | F | T | F | F |
| T | F | T | T | T | T | T |
| F | F | F | T | F | F | \textcircled{F} |

42.

| Q | R | $Q \supset R$ | $R \supset R$ | $\neg(Q \supset R)$ | $\neg(R \supset R)$ | $\neg\neg(Q \supset R)$ | $\neg(R \supset R) \wedge \neg\neg(Q \supset R)$ |
|-------------------|-------------------|---------------|-------------------|---------------------|---------------------|-------------------------|--|
| \textcircled{F} | \textcircled{F} | T | T | F | \textcircled{T} | T | F |
| F | T | T | \textcircled{F} | F | F | T | F |
| T | F | F | T | T | F | \textcircled{T} | \textcircled{T} |
| F | F | T | T | \textcircled{T} | \textcircled{T} | T | F |

43.

| P | Q | R | $Q \vee P$ | $R \supset R$ | $\neg Q$ | $(Q \vee P) \wedge (R \supset R)$ | $[(Q \vee P) \wedge (R \supset R)] \supset \neg Q$ | $\neg\{[(Q \vee P) \wedge (R \supset R)] \supset \neg Q\}$ |
|-----|-----|-----|------------|---------------|----------|-----------------------------------|--|--|
| T | T | T | T | T | F | T | F | T |
| F | T | T | T | T | F | T | F | T |
| T | F | T | T | T | T | T | T | F |
| F | F | T | F | T | T | F | T | F |
| T | T | F | T | T | F | T | F | T |
| F | T | F | T | T | F | T | \textcircled{T} | T |
| T | F | F | T | T | T | T | T | F |
| F | F | F | F | T | T | F | T | F |

44.

| P | Q | R | $Q \supset P$ | $R \wedge R$ | $R \vee (R \wedge R)$ | $\neg(Q \supset P)$ | $\neg\neg(Q \supset P)$ | $\neg\neg(Q \supset P) \vee [R \vee (R \wedge R)]$ |
|-----|-------------------|-----|---------------|-------------------|-----------------------|---------------------|-------------------------|--|
| T | T | T | T | T | \textcircled{F} | F | T | \textcircled{F} |
| F | T | T | F | T | T | T | F | T |
| T | F | T | T | T | T | F | T | T |
| F | \textcircled{T} | T | T | T | T | \textcircled{T} | T | T |
| T | T | F | T | \textcircled{T} | F | F | T | T |
| F | T | F | F | F | \textcircled{T} | T | F | F |
| T | F | F | T | F | \textcircled{T} | F | T | \textcircled{F} |
| F | F | F | T | F | F | F | T | T |

45.

| P | Q | R | $Q \vee Q$ | $R \supset Q$ | $R \wedge P$ | $(Q \vee Q) \vee (R \supset Q)$ | $(R \wedge P) \vee [(Q \vee Q) \vee (R \supset Q)]$ | $\neg\{(R \wedge P) \vee [(Q \vee Q) \vee (R \supset Q)]\}$ |
|-----|-------------------|-------------------|------------|-------------------|-------------------|---------------------------------|---|---|
| T | T | T | T | T | T | T | T | F |
| F | T | T | T | T | F | T | \textcircled{F} | F |
| T | F | T | F | F | T | F | T | F |
| F | F | T | F | \textcircled{T} | F | F | F | T |
| T | T | F | T | \textcircled{F} | F | T | T | F |
| F | \textcircled{F} | F | T | T | F | T | T | F |
| T | F | F | F | T | F | T | T | F |
| F | F | \textcircled{T} | F | T | \textcircled{T} | T | T | F |

46.

| Q | R | $Q \wedge R$ | $\neg Q$ | $(Q \wedge R) \wedge \neg Q$ |
|-------------------|-------------------|-------------------|-------------------|------------------------------|
| T | T | \textcircled{F} | F | F |
| \textcircled{T} | \textcircled{F} | \textcircled{T} | T | F |
| T | F | F | \textcircled{T} | F |
| F | F | F | \textcircled{F} | F |

47.

| P | $P \wedge P$ | $\neg P$ | $\neg\neg P$ | $\neg\neg P \vee (P \wedge P)$ |
|-----|-------------------|-------------------|--------------|--------------------------------|
| T | T | F | T | T |
| F | \textcircled{T} | \textcircled{F} | F | F |

48.

| P | R | $P \supset R$ | $R \wedge R$ | $\neg(P \supset R)$ | $\neg(P \supset R) \supset (R \wedge R)$ | $\neg[\neg(P \supset R) \supset (R \wedge R)]$ | $\neg\neg[\neg(P \supset R) \supset (R \wedge R)]$ |
|-----|-----|-------------------|-------------------|---------------------|--|--|--|
| T | T | T | T | F | T | F | T |
| F | T | \textcircled{F} | T | F | T | \textcircled{T} | T |
| T | F | F | \textcircled{T} | T | F | T | F |
| F | F | \textcircled{F} | F | F | T | F | \textcircled{F} |

49.

| P | Q | R | $R \vee R$ | $Q \wedge P$ | $\neg Q$ | $(R \vee R) \wedge (Q \wedge P)$ | $\neg Q \supset [(R \vee R) \wedge (Q \wedge P)]$ | $\neg\{\neg Q \supset [(R \vee R) \wedge (Q \wedge P)]\}$ |
|-----|-------------------|-----|-------------------|-------------------|-------------------|----------------------------------|---|---|
| T | \textcircled{F} | T | T | T | F | T | T | F |
| F | T | T | T | F | F | F | T | F |
| T | F | T | T | F | T | F | F | T |
| F | F | T | T | F | T | F | F | T |
| T | T | F | F | T | F | F | T | F |
| F | \textcircled{F} | F | \textcircled{T} | \textcircled{T} | F | \textcircled{T} | T | F |
| T | F | F | F | F | T | F | F | T |
| F | F | F | F | F | \textcircled{F} | F | F | T |

50.

| P | Q | R | $R \vee P$ | $R \supset R$ | $\neg Q$ | $(R \supset R) \wedge \neg Q$ | $[(R \supset R) \wedge \neg Q] \vee (R \vee P)$ | $\neg\{[(R \supset R) \wedge \neg Q] \vee (R \vee P)\}$ |
|-----------|-------------------|-----------|------------|---------------|-----------|-------------------------------|---|---|
| T | \textcircled{F} | T | T | T | F | F | T | \textcircled{T} |
| F | \bar{T} | \bar{T} | \bar{T} | \bar{T} | \bar{F} | \bar{F} | \bar{T} | \textcircled{T} |
| \bar{T} | \bar{F} | \bar{T} | \bar{T} | \bar{T} | \bar{T} | \bar{T} | \bar{T} | F |
| \bar{F} | \bar{F} | \bar{T} | \bar{T} | \bar{T} | \bar{T} | \bar{T} | \bar{T} | \textcircled{T} |
| \bar{T} | \bar{T} | F | \bar{T} | \bar{T} | F | \textcircled{T} | \bar{T} | F |
| \bar{F} | \bar{T} | F | \bar{F} | \bar{T} | \bar{F} | \bar{F} | \bar{F} | \bar{T} |
| \bar{T} | \bar{F} | F | \bar{T} | \bar{T} | \bar{T} | \bar{T} | \bar{T} | F |
| \bar{F} | \bar{F} | F | \bar{F} | \bar{T} | \bar{T} | \bar{T} | \bar{T} | F |

51.

| Q | R | $Q \supset Q$ | $R \supset R$ | $(Q \supset Q) \wedge (R \supset R)$ | $[(Q \supset Q) \wedge (R \supset R)] \wedge Q$ | $\{[(Q \supset Q) \wedge (R \supset R)] \wedge Q\} \supset (R \supset R)$ |
|-----------|-------------------|-------------------|-------------------|--------------------------------------|---|---|
| T | T | \textcircled{F} | T | T | \textcircled{F} | \textcircled{F} |
| F | \bar{T} | \bar{T} | \textcircled{F} | \bar{T} | \bar{F} | \bar{T} |
| \bar{T} | \textcircled{T} | \bar{T} | \bar{T} | \textcircled{F} | \bar{T} | \bar{T} |
| \bar{F} | \bar{F} | \bar{T} | \bar{T} | \bar{T} | \bar{F} | \bar{T} |

52.

| P | Q | R | $Q \vee R$ | $\neg P$ | $\neg P \vee Q$ | $(Q \vee R) \supset (Q \vee R)$ | $[(Q \vee R) \supset (Q \vee R)] \vee (\neg P \vee Q)$ |
|-------------------|-------------------|-----------|------------|-------------------|-----------------|---------------------------------|--|
| T | T | T | T | F | T | T | T |
| F | \bar{T} | \bar{T} | \bar{T} | \bar{T} | \bar{T} | \bar{T} | \bar{T} |
| \bar{T} | \bar{F} | \bar{T} | \bar{T} | \bar{F} | \bar{F} | \bar{T} | \bar{T} |
| \bar{F} | \bar{F} | \bar{T} | \bar{T} | \textcircled{F} | \bar{T} | \bar{T} | \bar{T} |
| \bar{T} | \textcircled{F} | \bar{F} | \bar{T} | \bar{F} | \bar{T} | \bar{T} | \bar{T} |
| \textcircled{T} | \textcircled{F} | \bar{F} | \bar{T} | \bar{T} | \bar{T} | \bar{T} | \bar{T} |
| \bar{T} | \bar{F} | \bar{F} | \bar{F} | \bar{F} | \bar{F} | \bar{T} | \bar{T} |
| \bar{F} | \bar{F} | \bar{F} | \bar{F} | \bar{T} | \bar{T} | \textcircled{F} | \bar{T} |

53.

| P | R | $P \vee R$ | $P \supset R$ | $(P \vee R) \supset P$ | $\neg(P \supset R)$ | $R \wedge [(P \vee R) \supset P]$ | $\neg(P \supset R) \vee \{R \wedge [(P \vee R) \supset P]\}$ |
|-----------|-----------|------------|---------------|------------------------|---------------------|-----------------------------------|--|
| T | T | T | T | T | F | T | T |
| F | \bar{T} | \bar{T} | \bar{T} | \bar{F} | \bar{F} | \bar{F} | \bar{F} |
| \bar{T} | \bar{F} | \bar{T} | \bar{F} | \bar{T} | \bar{T} | \bar{F} | \textcircled{F} |
| \bar{F} | \bar{F} | \bar{F} | \bar{T} | \bar{T} | \bar{F} | \bar{F} | \bar{F} |

54.

| P | Q | $P \supset P$ | $Q \wedge P$ | $Q \wedge Q$ | $(P \supset P) \supset (Q \wedge P)$ | $(Q \wedge Q) \wedge P$ | $[(P \supset P) \supset (Q \wedge P)] \wedge [(Q \wedge Q) \wedge P]$ |
|-----------|-------------------|---------------|-------------------|--------------|--------------------------------------|-------------------------|---|
| T | \textcircled{F} | T | \bar{T} | \bar{T} | \bar{T} | \bar{T} | \bar{T} |
| F | \bar{T} | \bar{T} | \textcircled{T} | \bar{T} | \bar{F} | \bar{F} | \bar{F} |
| \bar{T} | \bar{F} | \bar{T} | \bar{F} | \bar{F} | \bar{F} | \bar{F} | \bar{F} |
| \bar{F} | \bar{F} | \bar{T} | \textcircled{T} | \bar{F} | \bar{F} | \bar{F} | \textcircled{T} |

55.

| Q | R | $Q \vee Q$ | $Q \supset R$ | $R \wedge Q$ | $(Q \vee Q) \vee (R \wedge Q)$ | $[(Q \vee Q) \vee (R \wedge Q)] \supset (Q \supset R)$ | $\neg\{[(Q \vee Q) \vee (R \wedge Q)] \supset (Q \supset R)\}$ |
|-------------------|-----------|------------|---------------|--------------|--------------------------------|--|--|
| T | T | T | T | T | T | T | \textcircled{T} |
| F | \bar{T} | \bar{F} | \bar{T} | \bar{F} | \bar{F} | \bar{T} | \bar{F} |
| \textcircled{F} | \bar{F} | \bar{T} | \bar{F} | \bar{F} | \bar{T} | \bar{F} | \bar{T} |
| \bar{F} | \bar{F} | \bar{F} | \bar{T} | \bar{F} | \bar{F} | \bar{T} | \bar{F} |

56.

| P | Q | R | $R \vee P$ | $P \supset P$ | $\neg Q$ | $P \vee (R \vee P)$ | $\neg Q \supset (P \supset P)$ | $[P \vee (R \vee P)] \supset [\neg Q \supset (P \supset P)]$ |
|-------------------|-----|-----|------------|-------------------|-------------------|---------------------|--------------------------------|--|
| T | T | T | T | T | F | T | T | T |
| F | T | T | T | T | F | T | T | T |
| T | F | T | T | T | T | T | T | T |
| F | F | T | T | T | T | \textcircled{F} | T | T |
| \textcircled{F} | T | F | T | T | \textcircled{T} | T | T | T |
| F | T | F | F | T | F | F | T | T |
| T | F | F | T | T | T | T | T | T |
| F | F | F | F | \textcircled{F} | T | F | T | T |

57.

| P | Q | $P \wedge Q$ | $Q \wedge Q$ | $\neg P$ | $(P \wedge Q) \supset (Q \wedge Q)$ | $\neg P \supset P$ | $[(P \wedge Q) \supset (Q \wedge Q)] \vee (\neg P \supset P)$ |
|-------------------|-----|--------------|-------------------|-------------------|-------------------------------------|--------------------|---|
| T | T | T | T | F | T | \textcircled{F} | T |
| F | T | F | T | \textcircled{F} | \textcircled{F} | F | T |
| \textcircled{F} | F | F | F | F | T | T | \textcircled{F} |
| F | F | F | \textcircled{T} | T | T | F | T |

58.

| P | Q | R | $Q \vee R$ | $R \vee R$ | $R \supset Q$ | $(Q \vee R) \wedge (R \vee R)$ | $[(Q \vee R) \wedge (R \vee R)] \wedge (R \supset Q)$ | $\{[(Q \vee R) \wedge (R \vee R)] \wedge (R \supset Q)\} \vee P$ |
|-----|-----|-------------------|-------------------|-------------------|-------------------|--------------------------------|---|--|
| T | T | T | T | T | T | T | T | T |
| F | T | T | T | T | \textcircled{F} | T | T | T |
| T | F | T | T | T | F | T | F | T |
| F | F | T | T | T | F | T | F | F |
| T | T | F | T | \textcircled{T} | T | F | F | T |
| F | T | F | \textcircled{F} | F | T | F | F | F |
| T | F | F | F | F | T | F | F | T |
| F | F | \textcircled{T} | F | F | T | \textcircled{T} | F | F |

59.

| P | Q | $P \supset P$ | $Q \wedge P$ | $\neg P$ | $(Q \wedge P) \vee P$ | $[(Q \wedge P) \vee P] \vee \neg P$ | $(P \supset P) \supset \{[(Q \wedge P) \vee P] \vee \neg P\}$ |
|-----|-----|-------------------|-------------------|-------------------|-----------------------|-------------------------------------|---|
| T | T | T | T | F | T | \textcircled{F} | T |
| F | T | T | \textcircled{T} | T | F | T | T |
| T | F | \textcircled{F} | \textcircled{T} | F | T | T | T |
| F | F | T | F | \textcircled{F} | \textcircled{T} | T | T |

60.

| P | Q | R | $P \supset R$ | $R \supset Q$ | $(R \supset Q) \vee P$ | $\neg(P \supset R)$ | $[(R \supset Q) \vee P] \vee \neg(P \supset R)$ | $\neg\{[(R \supset Q) \vee P] \vee \neg(P \supset R)\}$ |
|-----|-----|-------------------|-------------------|---------------|------------------------|---------------------|---|---|
| T | T | T | T | T | T | F | T | F |
| F | T | \textcircled{F} | T | T | T | F | T | F |
| T | F | T | T | F | T | F | T | F |
| F | F | T | \textcircled{F} | F | F | F | F | T |
| T | T | \textcircled{T} | \textcircled{T} | T | T | T | T | F |
| F | T | F | T | T | T | \textcircled{T} | T | F |
| T | F | F | F | T | \textcircled{F} | T | \textcircled{F} | F |
| F | F | F | T | T | T | F | T | F |

61.

| P | Q | R | $R \vee P$ | $R \supset R$ | $\neg R$ | $(R \supset R) \vee (R \vee P)$ | $\neg R \supset Q$ | $(\neg R \supset Q) \supset [(R \supset R) \vee (R \vee P)]$ |
|-----|-------------------|-----|-------------------|---------------|-------------------|---------------------------------|--------------------|--|
| T | T | T | \textcircled{F} | T | \textcircled{T} | T | T | T |
| F | T | T | T | T | F | T | T | \textcircled{F} |
| T | F | T | T | T | F | T | T | T |
| F | \textcircled{T} | T | T | T | F | T | T | T |
| T | T | F | T | T | T | T | T | \textcircled{F} |
| F | T | F | F | T | \textcircled{F} | T | T | T |
| T | F | F | T | T | T | T | F | T |
| F | F | F | F | T | T | T | F | T |

62.

| Q | $\neg Q$ | $\neg\neg Q$ |
|-------------------|-------------------|-------------------|
| \textcircled{F} | \textcircled{T} | \textcircled{F} |
| \textcircled{T} | \textcircled{F} | \textcircled{T} |

63.

| P | Q | R | $Q \vee R$ | $Q \wedge Q$ | $R \wedge R$ | $(Q \wedge Q) \supset (R \wedge R)$ | $[(Q \wedge Q) \supset (R \wedge R)] \vee (Q \vee R)$ | $\{[(Q \wedge Q) \supset (R \wedge R)] \vee (Q \vee R)\} \supset P$ |
|-------------------|-------------------|-------------------|------------|-------------------|--------------|-------------------------------------|---|---|
| \textcircled{F} | T | T | T | T | T | T | T | T |
| F | \textcircled{F} | T | T | T | T | T | T | F |
| T | F | T | T | F | T | T | T | T |
| F | F | T | T | F | T | T | T | F |
| T | T | F | T | T | F | F | T | T |
| \textcircled{T} | T | \textcircled{T} | T | T | F | F | T | F |
| T | F | F | F | F | F | \textcircled{F} | T | T |
| F | F | F | F | \textcircled{T} | F | T | T | F |

64.

| P | Q | R | $Q \supset P$ | $\neg Q$ | $\neg R$ | $\neg Q \vee P$ | $(\neg Q \vee P) \vee (Q \supset P)$ | $[(\neg Q \vee P) \vee (Q \supset P)] \supset \neg R$ |
|-----|-----|-----|---------------|----------|----------|-----------------|--------------------------------------|---|
| T | T | T | T | F | F | T | T | \textcircled{T} |
| F | T | T | F | F | F | F | F | T |
| T | F | T | T | T | F | T | T | F |
| F | F | T | T | T | F | T | T | F |
| T | T | F | T | F | T | T | T | T |
| F | T | F | F | F | T | F | F | T |
| T | F | F | T | T | T | T | T | T |
| F | F | F | T | T | T | T | T | T |

65.

| P | Q | R | $\neg P$ | $\neg Q$ | $\neg R$ | $\neg R \vee \neg Q$ | $\neg\neg P$ | $(\neg R \vee \neg Q) \supset \neg\neg P$ |
|-----|-----|-------------------|----------|----------|----------|----------------------|--------------|---|
| T | T | T | F | F | F | F | T | T |
| F | T | T | T | F | F | F | F | T |
| T | F | \textcircled{F} | F | T | F | T | T | T |
| F | F | T | T | T | F | T | F | F |
| T | T | F | F | F | T | T | T | T |
| F | T | F | T | F | T | T | F | F |
| T | F | F | F | T | T | T | T | T |
| F | F | F | T | T | T | T | F | F |

66.

| P | Q | R | $Q \supset Q$ | $\neg R$ | $\neg R \wedge Q$ | $\neg(Q \supset Q)$ | $\neg(Q \supset Q) \wedge P$ | $[\neg(Q \supset Q) \wedge P] \supset (\neg R \wedge Q)$ |
|-----|-----|-------------------|-------------------|-------------------|-------------------|---------------------|------------------------------|--|
| T | T | T | T | F | F | F | F | T |
| F | T | T | \textcircled{F} | \textcircled{T} | F | F | F | \textcircled{F} |
| T | F | T | T | F | F | F | F | T |
| F | F | \textcircled{F} | T | F | F | F | F | T |
| T | T | F | T | \textcircled{F} | T | F | F | T |
| F | T | F | T | T | T | F | F | T |
| T | F | F | T | T | F | F | F | \textcircled{F} |
| F | F | F | T | T | F | F | F | T |

67.

| P | Q | R | $Q \vee R$ | $\neg P$ | $(Q \vee R) \supset P$ | $\neg P \supset R$ | $[(Q \vee R) \supset P] \vee (\neg P \supset R)$ | $\neg\{[(Q \vee R) \supset P] \vee (\neg P \supset R)\}$ |
|-----|-------------------|-----|-------------------|----------|------------------------|--------------------|--|--|
| T | T | T | T | F | T | \textcircled{F} | T | F |
| F | T | T | \textcircled{F} | T | F | \textcircled{F} | T | F |
| T | F | T | T | F | T | T | T | F |
| F | \textcircled{T} | T | T | T | F | T | T | F |
| T | T | F | T | F | T | T | T | F |
| F | T | F | T | T | F | F | F | T |
| T | F | F | F | F | T | \textcircled{F} | T | \textcircled{T} |
| F | \textcircled{T} | F | F | T | T | F | T | F |

68.

| P | Q | R | $R \vee R$ | $P \wedge Q$ | $Q \wedge R$ | $(P \wedge Q) \wedge (R \vee R)$ | $P \wedge (Q \wedge R)$ | $[P \wedge (Q \wedge R)] \wedge [(P \wedge Q) \wedge (R \vee R)]$ |
|-----|-----|-------------------|-------------------|-------------------|-------------------|----------------------------------|-------------------------|---|
| T | T | T | T | T | T | T | T | T |
| F | T | T | T | F | \textcircled{F} | F | F | F |
| T | F | T | \textcircled{F} | F | F | F | F | F |
| F | F | T | T | F | F | F | F | F |
| T | T | F | F | T | F | F | F | F |
| F | T | \textcircled{T} | F | F | F | F | F | F |
| T | F | F | F | F | F | F | F | F |
| F | F | F | F | \textcircled{T} | F | F | F | F |

69.

| P | R | $P \vee R$ | $P \wedge P$ | $(P \wedge P) \wedge R$ | $P \wedge (P \vee R)$ | $[P \wedge (P \vee R)] \supset R$ | $\{[P \wedge (P \vee R)] \supset R\} \supset [(P \wedge P) \wedge R]$ |
|-----|-------------------|-------------------|-------------------|-------------------------|-----------------------|-----------------------------------|---|
| T | \textcircled{F} | T | \textcircled{F} | T | T | \textcircled{F} | T |
| F | T | \textcircled{F} | F | F | F | T | F |
| T | F | T | \textcircled{F} | F | \textcircled{F} | \textcircled{T} | T |
| F | F | F | F | F | F | T | F |

70.

| P | R | $R \vee P$ | $P \supset P$ | $\neg(R \vee P)$ | $\neg(P \supset P)$ | $\neg(P \supset P) \wedge R$ | $[\neg(P \supset P) \wedge R] \vee \neg(R \vee P)$ |
|-----|-------------------|-------------------|-------------------|------------------|---------------------|------------------------------|--|
| T | \textcircled{F} | T | \textcircled{F} | F | F | \textcircled{T} | F |
| F | T | T | T | F | \textcircled{T} | F | F |
| T | F | \textcircled{F} | \textcircled{F} | F | F | F | F |
| F | F | F | T | T | F | F | \textcircled{F} |

71.

| P | Q | R | $P \supset Q$ | $P \wedge Q$ | $R \wedge R$ | $(P \wedge Q) \supset (P \supset Q)$ | $\neg(R \wedge R)$ | $[(P \wedge Q) \supset (P \supset Q)] \wedge \neg(R \wedge R)$ |
|-----|-----|-----|---------------|-------------------|--------------|--------------------------------------|--------------------|--|
| T | T | T | T | T | T | T | F | F |
| F | T | T | T | F | T | T | F | F |
| T | F | T | F | F | T | T | F | F |
| F | F | T | T | \textcircled{T} | T | T | F | F |
| T | T | F | T | \textcircled{F} | F | T | T | T |
| F | T | F | T | F | F | T | T | T |
| T | F | F | F | F | F | T | T | T |
| F | F | F | T | F | F | T | T | T |

72.

| P | Q | R | $Q \vee P$ | $Q \supset P$ | $(Q \vee P) \wedge R$ | $\neg(Q \supset P)$ | $[(Q \vee P) \wedge R] \wedge \neg(Q \supset P)$ | $\neg\{[(Q \vee P) \wedge R] \wedge \neg(Q \supset P)\}$ |
|-------------------|-----|-----|------------|-------------------|-----------------------|---------------------|--|--|
| T | T | T | T | T | T | F | \textcircled{T} | T |
| F | T | T | T | \textcircled{T} | T | T | T | F |
| T | F | T | T | T | T | F | F | T |
| F | F | T | F | T | F | F | F | T |
| T | T | F | T | T | F | F | \textcircled{T} | T |
| \textcircled{T} | T | F | T | F | F | \textcircled{F} | F | T |
| T | F | F | T | T | F | F | F | T |
| F | F | F | F | \textcircled{F} | F | F | F | T |

73.

| P | Q | R | $P \supset Q$ | $R \supset P$ | $\neg P$ | $(P \supset Q) \wedge (R \supset P)$ | $\neg P \wedge R$ | $(\neg P \wedge R) \vee [(P \supset Q) \wedge (R \supset P)]$ |
|-------------------|-----|-----|---------------|-------------------|-------------------|--------------------------------------|-------------------|---|
| T | T | T | T | T | F | T | F | T |
| F | T | T | T | F | T | F | T | T |
| T | F | T | F | T | F | F | F | F |
| \textcircled{T} | F | T | T | F | T | F | T | \textcircled{F} |
| T | T | F | T | T | F | T | F | T |
| F | T | F | T | T | T | T | F | T |
| \textcircled{F} | F | F | F | T | \textcircled{T} | F | F | F |
| F | F | F | T | \textcircled{F} | T | T | F | T |

74.

| P | Q | R | $P \vee P$ | $\neg Q$ | $\neg Q \vee Q$ | $R \supset (P \vee P)$ | $\neg[R \supset (P \vee P)]$ | $\neg[R \supset (P \vee P)] \wedge (\neg Q \vee Q)$ |
|-------------------|-----|-----|-------------------|-------------------|-------------------|------------------------|------------------------------|---|
| T | T | T | T | F | T | T | F | \textcircled{T} |
| F | T | T | F | F | T | F | T | T |
| T | F | T | T | T | T | T | \textcircled{T} | F |
| F | F | T | \textcircled{T} | T | \textcircled{F} | F | T | T |
| \textcircled{F} | T | F | T | F | T | T | F | \textcircled{T} |
| F | T | F | F | F | T | T | F | F |
| T | F | F | T | \textcircled{F} | T | T | F | F |
| F | F | F | F | T | T | T | F | F |

75.

| P | R | $P \vee P$ | $R \supset P$ | $\neg P$ | $P \wedge \neg P$ | $(P \wedge \neg P) \supset (P \vee P)$ | $[(P \wedge \neg P) \supset (P \vee P)] \supset (R \supset P)$ |
|-----|-----|------------|---------------|----------|-------------------|--|--|
| T | T | T | T | F | F | \textcircled{F} | \textcircled{F} |
| F | T | F | F | T | F | \textcircled{F} | F |
| T | F | T | T | F | F | T | T |
| F | F | F | T | T | F | \textcircled{F} | T |

76.

| P | Q | R | $P \vee Q$ | $P \supset R$ | $\neg Q$ | $(P \supset R) \wedge (P \vee Q)$ | $\neg\neg Q$ | $\neg\neg Q \wedge [(P \supset R) \wedge (P \vee Q)]$ |
|-----|-------------------|-----|------------|-------------------|----------|-----------------------------------|--------------|---|
| T | T | T | T | T | F | T | T | T |
| F | T | T | T | T | F | T | T | T |
| T | F | T | T | T | T | T | F | F |
| F | \textcircled{T} | T | F | T | T | F | F | F |
| T | T | F | T | F | F | \textcircled{T} | T | F |
| F | T | F | T | T | F | T | T | T |
| T | F | F | T | F | T | F | F | F |
| F | F | F | F | \textcircled{F} | T | F | F | F |

77.

| P | Q | $P \supset P$ | $P \wedge Q$ | $\neg Q$ | $(P \wedge Q) \wedge \neg Q$ | $\neg[(P \wedge Q) \wedge \neg Q]$ | $\neg[(P \wedge Q) \wedge \neg Q] \supset (P \supset P)$ |
|-------------------|-----|-------------------|-------------------|----------|------------------------------|------------------------------------|--|
| T | T | T | T | F | F | \textcircled{F} | T |
| F | T | \textcircled{F} | F | F | F | T | T |
| T | F | T | F | T | F | T | T |
| \textcircled{T} | F | T | \textcircled{T} | T | F | T | T |

78.

| P | Q | R | $R \vee R$ | $Q \supset P$ | $\neg P$ | $\neg P \supset (Q \supset P)$ | $(R \vee R) \wedge R$ | $[\neg P \supset (Q \supset P)] \wedge [(R \vee R) \wedge R]$ |
|-----|-----|-----|-------------------|-------------------|----------|--------------------------------|-----------------------|---|
| T | T | T | T | T | F | T | T | T |
| F | T | T | T | \textcircled{T} | T | F | T | F |
| T | F | T | T | T | F | T | T | T |
| F | F | T | T | T | T | T | T | T |
| T | T | F | F | T | F | T | F | F |
| F | T | F | F | F | T | F | F | F |
| T | F | F | \textcircled{T} | T | F | \textcircled{F} | F | \textcircled{T} |
| F | F | F | F | T | T | T | F | F |

79.

| P | Q | R | $P \supset Q$ | $\neg Q$ | $\neg R$ | $\neg Q \supset (P \supset Q)$ | $[\neg Q \supset (P \supset Q)] \supset \neg R$ | $\neg\{[\neg Q \supset (P \supset Q)] \supset \neg R\}$ |
|-------------------|-----|-----|---------------|----------|----------|--------------------------------|---|---|
| T | T | T | T | F | F | T | F | T |
| F | T | T | T | F | F | T | F | T |
| T | F | T | F | T | F | F | T | F |
| F | F | T | T | T | F | T | F | T |
| T | T | F | T | F | T | T | T | F |
| \textcircled{T} | T | F | T | F | T | T | T | F |
| T | F | F | F | T | T | F | T | F |
| F | F | F | T | T | T | \textcircled{F} | T | F |

80.

| P | R | $R \vee R$ | $P \wedge P$ | $\neg(R \vee R)$ | $\neg(P \wedge P)$ | $\neg\neg(R \vee R)$ | $\neg\neg(R \vee R) \vee \neg(P \wedge P)$ |
|-----|-----|-------------------|--------------|------------------|--------------------|----------------------|--|
| T | T | T | T | F | F | T | \textcircled{F} |
| F | T | T | F | F | T | T | T |
| T | F | \textcircled{T} | T | T | F | F | F |
| F | F | F | F | T | T | F | T |

81.

| P | Q | R | $R \vee R$ | $P \supset R$ | $(P \supset R) \supset Q$ | $\neg(R \vee R)$ | $\neg\neg(R \vee R)$ | $\neg\neg(R \vee R) \vee [(P \supset R) \supset Q]$ |
|-------------------|-------------------|-----|------------|---------------|---------------------------|------------------|----------------------|---|
| T | T | T | T | T | T | F | T | T |
| F | \textcircled{F} | T | T | T | T | F | T | T |
| T | F | T | T | T | F | F | T | T |
| F | F | T | T | T | F | F | T | T |
| T | T | F | F | F | T | T | F | T |
| F | T | F | F | T | T | T | F | T |
| \textcircled{F} | F | F | F | F | T | T | F | T |
| F | F | F | F | T | F | T | F | F |

| P | Q | $P \vee Q$ | $Q \wedge Q$ | $(P \vee Q) \supset Q$ | $[(P \vee Q) \supset Q] \wedge (Q \wedge Q)$ | $\neg\{[(P \vee Q) \supset Q] \wedge (Q \wedge Q)\}$ | $\neg\neg\{[(P \vee Q) \supset Q] \wedge (Q \wedge Q)\}$ |
|-----|-----|------------|--------------|------------------------|--|--|--|
| T | T | T | T | T | T | F | T |
| F | T | T | T | T | T | F | T |
| T | F | T | F | F | F | T | F |
| F | F | F | F | \textcircled{F} | F | T | F |

| P | Q | R | $Q \vee Q$ | $R \vee P$ | $(Q \vee Q) \wedge P$ | $(R \vee P) \wedge P$ | $[(R \vee P) \wedge P] \vee [(Q \vee Q) \wedge P]$ | $\neg\{[(R \vee P) \wedge P] \vee [(Q \vee Q) \wedge P]\}$ |
|-------------------|-----|-------------------|-------------------|-------------------|-----------------------|-----------------------|--|--|
| T | T | T | T | T | T | T | T | F |
| F | T | T | T | T | F | F | F | T |
| T | F | \textcircled{F} | F | T | F | T | T | F |
| F | F | T | F | T | F | F | F | T |
| \textcircled{F} | T | F | T | \textcircled{F} | T | T | T | F |
| F | T | F | T | F | F | F | F | T |
| \textcircled{F} | F | F | F | T | F | \textcircled{F} | T | F |
| F | F | F | \textcircled{T} | F | F | F | F | T |

| P | R | $R \supset R$ | $\neg R$ | $\neg R \supset P$ | $(\neg R \supset P) \vee (R \supset R)$ | $(R \supset R) \vee [(\neg R \supset P) \vee (R \supset R)]$ |
|-------------------|-------------------|-------------------|-------------------|--------------------|---|--|
| \textcircled{F} | T | T | \textcircled{T} | \textcircled{F} | T | T |
| F | T | T | F | T | T | T |
| \textcircled{F} | F | T | T | T | T | \textcircled{F} |
| F | \textcircled{T} | \textcircled{F} | T | F | T | T |

| P | Q | R | $P \supset R$ | $\neg P$ | $\neg Q$ | $R \supset (P \supset R)$ | $\neg P \wedge \neg Q$ | $[R \supset (P \supset R)] \supset (\neg P \wedge \neg Q)$ |
|-------------------|-----|-----|-------------------|----------|----------|---------------------------|------------------------|--|
| T | T | T | T | F | F | T | F | F |
| F | T | T | T | T | F | T | F | F |
| T | F | T | T | F | T | \textcircled{F} | F | F |
| F | F | T | T | T | T | T | T | T |
| T | T | F | F | F | F | T | F | F |
| F | T | F | T | T | F | T | F | F |
| T | F | F | \textcircled{T} | F | T | T | F | F |
| \textcircled{T} | F | F | T | T | T | T | T | T |

86.

| P | Q | R | $P \wedge P$ | $R \wedge P$ | $\neg Q$ | $P \supset (R \wedge P)$ | $\neg Q \wedge (P \wedge P)$ | $[P \supset (R \wedge P)] \wedge [\neg Q \wedge (P \wedge P)]$ |
|-------------------|-----|-----|-------------------|-------------------|-------------------|--------------------------|------------------------------|--|
| T | T | T | T | T | F | T | F | F |
| \textcircled{T} | T | T | F | F | F | T | F | F |
| T | F | T | \textcircled{F} | \textcircled{F} | \textcircled{F} | T | T | T |
| F | F | T | F | F | T | T | F | F |
| \textcircled{F} | T | F | T | F | F | F | F | F |
| F | T | F | F | F | F | T | F | F |
| T | F | F | T | F | T | \textcircled{T} | T | F |
| F | F | F | F | F | T | T | \textcircled{T} | F |

87.

| P | R | $P \vee R$ | $R \wedge P$ | $R \wedge R$ | $P \vee (R \wedge R)$ | $(P \vee R) \supset (R \wedge P)$ | $[P \vee (R \wedge R)] \wedge [(P \vee R) \supset (R \wedge P)]$ |
|-------------------|-------------------|------------|--------------|--------------|-----------------------|-----------------------------------|--|
| T | T | T | T | T | T | T | T |
| F | T | T | F | T | T | F | F |
| T | F | T | F | F | T | F | F |
| \textcircled{T} | \textcircled{T} | F | F | F | F | T | F |

88.

| P | Q | $Q \vee Q$ | $Q \supset Q$ | $\neg P$ | $P \wedge (Q \supset Q)$ | $[P \wedge (Q \supset Q)] \wedge (Q \vee Q)$ | $\{[P \wedge (Q \supset Q)] \wedge (Q \vee Q)\} \vee \neg P$ |
|-------------------|-----|------------|-------------------|-------------------|--------------------------|--|--|
| \textcircled{F} | T | T | T | F | T | T | T |
| F | T | T | T | T | F | F | T |
| T | F | F | T | F | T | F | F |
| F | F | F | \textcircled{F} | \textcircled{F} | \textcircled{T} | F | T |

89.

| P | Q | R | $Q \wedge R$ | $R \wedge Q$ | $\neg P$ | $(Q \wedge R) \supset \neg P$ | $(R \wedge Q) \supset Q$ | $[(Q \wedge R) \supset \neg P] \supset [(R \wedge Q) \supset Q]$ |
|-----|-------------------|-----|-------------------|-------------------|-------------------|-------------------------------|--------------------------|--|
| T | T | T | T | T | F | F | T | T |
| F | T | T | T | \textcircled{F} | \textcircled{F} | T | T | T |
| T | F | T | F | F | F | T | T | T |
| F | F | T | F | F | T | T | T | T |
| T | \textcircled{F} | F | F | F | F | T | T | T |
| F | T | F | \textcircled{T} | \textcircled{T} | T | T | T | T |
| T | F | F | F | F | F | T | T | T |
| F | F | F | F | F | T | T | T | T |

90.

| P | Q | R | $P \vee R$ | $R \vee Q$ | $\neg P$ | $\neg P \vee (R \vee Q)$ | $(P \vee R) \wedge R$ | $[\neg P \vee (R \vee Q)] \vee [(P \vee R) \wedge R]$ |
|-------------------|-------------------|-------------------|------------|-------------------|-------------------|--------------------------|-----------------------|---|
| T | T | T | T | T | F | T | T | T |
| F | \textcircled{F} | T | T | T | T | T | T | T |
| T | F | T | T | \textcircled{F} | F | T | T | T |
| \textcircled{T} | F | T | T | T | T | T | T | T |
| T | T | F | T | T | \textcircled{T} | T | \textcircled{T} | \textcircled{F} |
| F | T | \textcircled{T} | F | T | T | T | F | T |
| T | F | F | T | F | F | F | F | F |
| F | F | F | F | \textcircled{T} | T | T | F | T |

91.

| P | Q | R | $R \wedge R$ | $\neg P$ | $\neg P \vee Q$ | $(R \wedge R) \supset \neg P$ | $[(R \wedge R) \supset \neg P] \supset (\neg P \vee Q)$ |
|-----|-----|-------------------|-------------------|-------------------|-------------------|-------------------------------|---|
| T | T | T | T | F | T | F | T |
| F | T | T | T | T | T | T | T |
| T | F | T | T | F | F | F | T |
| F | F | T | \textcircled{F} | T | T | T | T |
| T | T | F | F | \textcircled{T} | T | T | T |
| F | T | F | F | T | T | T | T |
| T | F | \textcircled{T} | F | F | F | \textcircled{F} | F |
| F | F | F | F | T | \textcircled{F} | T | \textcircled{F} |

92.

| P | Q | $Q \vee Q$ | $P \wedge P$ | $\neg Q$ | $Q \wedge \neg Q$ | $(Q \vee Q) \vee (Q \wedge \neg Q)$ | $[(Q \vee Q) \vee (Q \wedge \neg Q)] \wedge (P \wedge P)$ |
|-----|-----|-------------------|-------------------|-------------------|-------------------|-------------------------------------|---|
| T | T | \textcircled{F} | \textcircled{F} | F | F | T | \textcircled{F} |
| F | T | T | F | F | F | T | F |
| T | F | \textcircled{T} | \textcircled{F} | \textcircled{F} | \textcircled{T} | F | F |
| F | F | F | F | T | F | F | F |

93.

| P | Q | $P \vee Q$ | $Q \supset P$ | $P \supset (P \vee Q)$ | $\neg(Q \supset P)$ | $\neg(Q \supset P) \supset P$ | $[P \supset (P \vee Q)] \vee [\neg(Q \supset P) \supset P]$ |
|-------------------|-----|------------|-------------------|------------------------|---------------------|-------------------------------|---|
| \textcircled{F} | T | T | T | T | F | T | \textcircled{F} |
| F | T | T | F | T | T | F | T |
| T | F | T | \textcircled{F} | T | \textcircled{T} | T | T |
| F | F | F | T | T | F | T | \textcircled{F} |

94.

| P | Q | $Q \vee Q$ | $\neg P$ | $\neg Q$ | $(Q \vee Q) \wedge P$ | $\neg Q \wedge \neg P$ | $[(Q \vee Q) \wedge P] \supset (\neg Q \wedge \neg P)$ |
|-------------------|-----|------------|----------|----------|-----------------------|------------------------|--|
| T | T | T | F | F | \textcircled{F} | F | F |
| F | T | T | T | F | \textcircled{T} | \textcircled{T} | \textcircled{F} |
| \textcircled{F} | F | F | F | T | \textcircled{T} | F | T |
| F | F | F | T | T | \textcircled{T} | T | T |

95.

| P | Q | R | $P \vee R$ | $\neg Q$ | $Q \wedge \neg Q$ | $\neg(P \vee R)$ | $\neg(P \vee R) \wedge P$ | $[\neg(P \vee R) \wedge P] \vee (Q \wedge \neg Q)$ |
|-----|-----|-----|------------|----------|-------------------|-------------------|---------------------------|--|
| T | T | T | T | F | F | F | F | F |
| F | T | T | T | F | F | F | F | F |
| T | F | T | T | T | F | F | F | F |
| F | F | T | T | T | F | F | F | F |
| T | T | F | T | F | F | F | F | \textcircled{T} |
| F | T | F | F | F | F | T | F | F |
| T | F | F | T | T | F | F | F | F |
| F | F | F | F | T | F | \textcircled{F} | F | F |

96.

| P | Q | R | $R \vee P$ | $Q \supset Q$ | $P \wedge R$ | $(R \vee P) \vee (P \wedge R)$ | $\neg(Q \supset Q)$ | $\neg(Q \supset Q) \wedge [(R \vee P) \vee (P \wedge R)]$ |
|-------------------|-----|-----|-------------------|-------------------|--------------|--------------------------------|---------------------|---|
| T | T | T | T | T | T | T | F | F |
| F | T | T | T | T | F | T | F | F |
| T | F | T | T | T | T | T | F | F |
| F | F | T | T | T | F | T | F | F |
| T | T | F | T | T | F | T | F | F |
| F | T | F | \textcircled{T} | T | F | F | F | F |
| T | F | F | \textcircled{F} | \textcircled{F} | F | T | F | \textcircled{T} |
| \textcircled{T} | F | F | F | T | F | F | F | F |

97.

| P | Q | R | $P \vee P$ | $Q \vee Q$ | $P \supset Q$ | $(Q \vee Q) \vee (P \supset Q)$ | $(P \vee P) \supset R$ | $[(P \vee P) \supset R] \supset [(Q \vee Q) \vee (P \supset Q)]$ |
|-----|-----|-----|-------------------|-------------------|---------------|---------------------------------|------------------------|--|
| T | T | T | \textcircled{F} | T | T | T | T | T |
| F | T | T | F | T | T | T | T | T |
| T | F | T | T | \textcircled{T} | F | F | \textcircled{F} | F |
| F | F | T | F | F | T | T | T | T |
| T | T | F | T | T | T | T | F | T |
| F | T | F | F | \textcircled{F} | T | T | T | T |
| T | F | F | \textcircled{F} | \textcircled{T} | F | F | F | T |
| F | F | F | F | F | T | T | T | T |

98.

| Q | R | $Q \vee Q$ | $R \vee Q$ | $Q \supset R$ | $Q \wedge (Q \supset R)$ | $[Q \wedge (Q \supset R)] \wedge (R \vee Q)$ | $\{[Q \wedge (Q \supset R)] \wedge (R \vee Q)\} \wedge (Q \vee Q)$ |
|-----|-------------------|-------------------|------------|---------------|--------------------------|--|--|
| T | T | T | T | T | T | T | T |
| F | \textcircled{F} | \textcircled{T} | T | T | F | F | F |
| T | F | \textcircled{F} | T | F | F | F | \textcircled{T} |
| F | F | F | F | T | F | F | F |

99.

| P | R | $P \vee R$ | $R \supset R$ | $\neg R$ | $(P \vee R) \vee (R \supset R)$ | $\neg R \vee R$ | $(\neg R \vee R) \supset [(P \vee R) \vee (R \supset R)]$ |
|-------------------|-----|-------------------|-------------------|-------------------|---------------------------------|-------------------|---|
| \textcircled{F} | T | \textcircled{F} | \textcircled{F} | F | T | \textcircled{F} | T |
| F | T | \textcircled{F} | T | \textcircled{T} | \textcircled{F} | T | T |
| T | F | T | T | T | T | T | T |
| F | F | F | T | T | \textcircled{F} | T | T |

100.

| P | Q | R | $Q \vee P$ | $Q \wedge R$ | $\neg R$ | $(Q \wedge R) \vee Q$ | $\neg R \wedge (Q \vee P)$ | $[\neg R \wedge (Q \vee P)] \wedge [(Q \wedge R) \vee Q]$ |
|-----|-------------------|-------------------|------------|--------------|----------|-----------------------|----------------------------|---|
| T | \textcircled{F} | T | T | T | F | \textcircled{F} | F | F |
| F | T | \textcircled{F} | T | T | F | T | F | F |
| T | F | T | T | F | F | F | F | F |
| F | F | T | F | F | F | F | F | F |
| T | T | F | T | F | T | T | T | T |
| F | T | \textcircled{T} | T | F | T | T | T | T |
| T | F | \textcircled{T} | T | F | T | F | T | F |
| F | F | F | F | F | T | \textcircled{T} | F | \textcircled{T} |