

## Solutions 2

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**2.1.22** Statements are logically equivalent as this is the distributive law.

**2.1.24** Statements are logically equivalent as the truth tables are the same.

**2.1.28** This computer program does not have a logical error in the first ten lines and it is not being run with an incomplete data set.

**2.1.33**  $x < -10 \vee 2 < x$

**2.1.42** Contradiction.

**2.1.49** (a) Commutative Law

(b) De Morgan's Law

(c) Negation Law

(d) Universal bound Law

**E1**

1.  $p$ .

2.  $p$ .

3.  $p$ .