

HW #2-6 Answers

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1. *Counter-* means “opposing.” So, a counterexample opposes the truth of the statement.
17. You passed the class.
19. Not possible
21. Not possible
23. If a figure is a rhombus, then the figure has 2 pairs of opposite sides that are parallel.

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2. Conditional: If you are in physics class, then you always have homework. TRUE
Converse: If you always have homework, then you are in physics class. FALSE
Inverse: If you are not in physics class, then you do not always have homework. FALSE
Contrapositive: If you do not always have homework, then you are not in physics class.
TRUE
3. Conditional: If I take my driving test, then I will get my driver’s license. FALSE
Converse: If I get my driver’s license, then I took my driving test. TRUE
Inverse: If I do not take my driving test, then I will not get my driver’s license. TRUE
Contrapositive: If I do not get my driver’s license, then I did not take my driving test.
FALSE
4. The numbers 2 and -5: $2 + (-5) = -3$
5. A trapezoid, a kite, a rhombus are all counterexamples. (A square is not a counterexample because a square IS a rectangle!)
8. Yes
9. No
10. Yes
11. Yes