

Florida Geometry
Chapter 2 - Chapter Review Solutions

8. Divide the previous term by 10. The next two terms are $10 \div 10 = 1$ and $1 \div 10 = 0.1$.
12. Answers may vary. Sample:
 $-1 \cdot 2 = -2$, and -2 is not greater than 2.
13. Answers may vary. Sample:
Portland, Maine
14. Write the statement in if-then form: If a person is a motorcyclist, then that person wears a helmet.
15. Write the statement in if-then form: If two nonparallel lines intersect, then they intersect at one point.
18. A converse exchanges the hypothesis and conclusion, so the converse is, "If the measure of an angle is greater than 90 and less than 180, then the angle is obtuse."
The inverse negates the hypothesis and conclusion, so the inverse is, "If an angle is not obtuse, then it is not true that its measure is greater than 90 and less than 180."
The contrapositive exchanges and negates the hypothesis and conclusion, so the contrapositive is, "If it is not true that the measure of an angle is greater than 90 and less than 180, then the angle is not obtuse."
All four statements are true.
19. A converse exchanges the hypothesis and conclusion, so the converse is, "If a figure has four sides, then the figure is a square."
The inverse negates the hypothesis and conclusion, so the inverse is, "If a figure is not a square, then it does not have four sides."
The contrapositive exchanges and negates the hypothesis and conclusion, so the contrapositive is, "If a figure does not have four sides, then the figure is not a square."
The conditional and the contrapositive are true. The converse and inverse are false.
21. A converse exchanges the hypothesis and conclusion, so the converse is, "If you are busy on Saturday night, then you baby-sit."
The inverse negates the hypothesis and conclusion, so the inverse is, "If you do not baby-sit, then you are not busy on Saturday night."
The contrapositive exchanges and negates the hypothesis and conclusion, so the contrapositive is, "If you are not busy on Saturday night, then you do not baby-sit."
The conditional and the contrapositive are true. The converse and inverse are false.
22. No; it is not reversible; a magazine is a counterexample.
24. No; it is not reversible; a line is a counterexample.
25. A phrase is an oxymoron if and only if it contains contradictory terms.
27. The second statement confirms the hypothesis of the first statement, so the Law of Detachment can be used to conclude, "Colin will become a better player."
28. The first sentence is a particular case of the hypothesis of the second statement. So by the Law of Detachment, $m\angle 1 + m\angle 2 = 180$.
29. The hypothesis of one statement is the same as the conclusion for the other statement, so the Law of Syllogism can be used to conclude, "If two angles are vertical, then their measures are equal."

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32. *BY*; Divide each side by 2

34. Since $\angle AEC$ and $\angle BED$ are vertical angles, they are congruent, and their measures are equal.

$$3y + 20 = 5y - 16$$

$$20 = 2y - 16$$

$$36 = 2y$$

$$18 = y$$

35. Since $\angle AEC$ and $\angle BED$ are vertical angles, they are congruent, and their measures are equal.

$$3y + 20 = 5y - 16$$

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$$\text{So, } m\angle AEC = 3y + 20 = 3(18) + 20 = 54 + 20 = 74 .$$