Name _____

Inductive Reasoning Hw Section 2.1

If the given statement is not in if-then form, rewrite it. Identify the hypothesis and the conclusion. Then write the converse, inverse, and contrapositive.

1. If a figure is a rectangle, then it has four sides.

a. If-Then Conditional statement: If a figure is a rectangle, then it has four sides.

b. Hypothesis: a figure is a rectangle

c. Conclusion: it has four sides

d. Converse: If a figure has four sides, then it is a rectangle

e. Inverse: If a figure is not a rectangle, then it does not have 4 sides

f. Contrapositive: If a figure does not have four sides, then it is not a rectangle

2. All Europeans live in Germany.

a. If-Then Conditional statement: If you are European, then you live in Germany

b. Hypothesis: you are European

c. Conclusion: you live in Germany

d. Converse: If you live in Germany, then you are European.

e. Inverse: If you are not European, then you don't live in Germany.

f. Contrapositive: If you don't live in Germany, then you are not European.

3. If $x = -6$, then $|x| = 6$.

a. If-Then Conditional statement: If $x = -6$, then $|x| = 6$.

b. Hypothesis: $x = -6$

c. Conclusion: $|x| = 6$

d. Converse: If $|x| = 6$, then $x = -6$

e. Inverse: If $x \neq -6$, then $|x| \neq 6$

f. Contrapositive: If $|x| \neq 6$, then $x \neq -6$

Determine the truth-value for the following statements. If a statement if false, give a counter example.

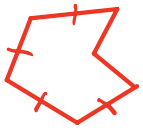
4. If an animal is a mammal, it lives on land. False ; Dolphin

5. If a number is prime, then it is odd. False : 2

6. If your first name is Joe, then your last name is Mamma. False; JOE DIRT

7. If the figure is a triangle, then the sum of the interior angles is 180°. True

8. If a figure has 4 congruent sides, then that figure is a square. False;



Find a pattern for each sequence. Use the pattern to find the next two terms.

9. 4, 4.5, 4.56, 4.567... 4.5678, 4.56789

10. 1, -1, 2, -2, 3... -3, 4

11. J, F, M, A, M, ... J, J

anuary
ebruary
arch
pril
ay
une
uly

Solve each equation for x!

1. $3x - 3 = -6$

$3x = -3$

$x = -1$

2. $4x + 1 = 13x - 13$

$1 = 9x - 13$

$14 = 9x$

$\frac{14}{9} = x$

Multiply!

3. $x(x - 2)$ $= x^2 - 2x$

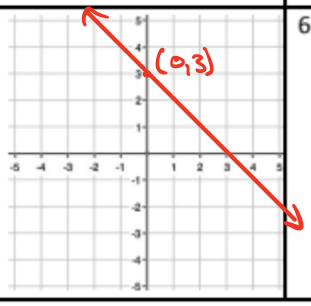
Factor!

4. $4x^3 - 8x^2$

$= 4x^2(x - 2)$

5. Graph the equation:

$y = -x + 3$



6. Graph the equation:

$y = 1$

