**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_**

**ANSWER KEY**

**Worksheet 8**

**Complete the following problems. Show your work.**

1. Write the converse, inverse, and the contrapositive for the following statement: *If I washed the truck, then the weather is nice.*

If the weather is nice, then I washed the truck.

Converse:

If I did not wash the truck, then the weather is not nice.

Inverse:

If the weather is not nice, then I did not wash the truck.

Contrapositive:

1. Pascal’s Triangle begins with Row 0, which is the number “1”. Write

Row 3 of Pascal’s Triangle here:

1 3 3 1

1. Draw a Truth Table for the conjunction p ^ q.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| p | q | | p^q | |
| T | T | | T | |
| T | F | | F | |
| F | T | | F | |
| F | T | | F | |
| p | q | p vq | |
| T | T | T | |
| T | F | T | |
| F | T | T | |
| F | T | F | |

1. Draw a Venn Diagram for this example and answer the question:

Out of sixty students surveyed at SGSC, 23 are taking English and 42 are taking Chemistry. If 12 students are in both English and Chemistry, how many students are in neither class?

Answer: 7

English

Chemistry

12

30

11

7

1. Convert the Roman numeral to Hindu Arabic

1254

MCCLIV = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Identify the set(s) of numbers to which each given number belongs from the following sets N W Z Q I R.

N W Z Q R

a.

b.

I R

Q R

c. *e*

Q R

d. 3.8

Z Q R

e. -4

1. Use Left to Right Addition to add. Show all your steps.

64

Add tens 60+30=90

Add ones 4+5=9

90+9=99

+ 35

1. Use Order of Operations to simplify. Show your work.

42+1230 / 2 \* 6 +18

42+615 \* 6 + 18

42+3690+18

3732+18

3750

1. Use the Lattice Method to add. Show all your steps.

429

+ 398

|  |  |  |
| --- | --- | --- |
| 4 | 9 | 9 |
| 0  3 | 1 | 1  8 |
| 8  7 | 1 |  |

2

827

0

7

2

7

1. Is 3,507 divisible by 3? Explain your reasoning.

Yes, because the sum of the digits 3 + 5 + 0 + 7 = 15 is divisible by 3.

1. List the prime factorization of 375.

53\*3

375

5 \* 75

5 \* 3 \* 25

5 \* 3 \* 5 \* 5