

5th Grade Assignment – Week #14

Group Assignment: Discovery!

For Tuesday: **Laws of Multiplication, Division, and Remainders**

Note for parent: After completing the below problems, it may be nice to select your favorite laws and write them up as a main lesson book or summary page.

With each problem, everyone in the group should come up with their own example(s), share it with the group, and then the group together should complete the statement/law by selecting either a, b, or c.

Warning! One of the statements is not possible! See if you can figure out which one isn't possible!

1. An even number times an even number is...
 - a) always an even number.
 - b) always an odd number.
 - c) sometimes an even number, and sometimes an odd number.
2. An odd number times an odd number is...
 - a) always an even number.
 - b) always an odd number.
 - c) sometimes an even number, and sometimes an odd number.
3. An even number times an odd number is...
 - a) always an even number.
 - b) always an odd number.
 - c) sometimes an even number, and sometimes an odd number.
4. When dividing two numbers, if there is no remainder, then an even number divided by an even number is...
 - a) always an even number.
 - b) always an odd number.
 - c) sometimes an even number, and sometimes an odd number.
5. When dividing two numbers, if there is no remainder, then an odd number divided by an odd number is...
 - a) always an even number.
 - b) always an odd number.
 - c) sometimes an even number, and sometimes an odd number.
6. When dividing two numbers, if there is no remainder, then an even number divided by an odd number is...
 - a) always an even number.
 - b) always an odd number.
 - c) sometimes an even number, and sometimes an odd number.
7. When dividing two numbers, if there is no remainder, then an odd number divided by an even number is...
 - a) always an even number.
 - b) always an odd number.
 - c) sometimes an even number, and sometimes an odd number.

(Tuesday Group Work – continued)

8. When dividing two numbers, if there is a remainder, then an even number divided by an even number produces a remainder that is...
 - a) always an even number.
 - b) always an odd number.
 - c) sometimes an even number, and sometimes an odd number.
9. When dividing two numbers, if there is a remainder, then an odd number divided by an odd number produces a remainder that is...
 - a) always an even number.
 - b) always an odd number.
 - c) sometimes an even number, and sometimes an odd number.
10. When dividing two numbers, if there is a remainder, then an even number divided by an odd number produces a remainder that is...
 - a) always an even number.
 - b) always an odd number.
 - c) sometimes an even number, and sometimes an odd number.
11. When dividing two numbers, if there is a remainder, then an odd number divided by an even number produces a remainder that is...
 - a) always an even number.
 - b) always an odd number.
 - c) sometimes an even number, and sometimes an odd number.

For Thursday: Puzzles! See how many of these you can do:

1. Pets' Legs

All of Jane's pets are either cats or birds. How many cats and birds does Jane have...

- a) if she has 3 pets and they have a total of 10 legs?
- b) if she has 10 pets and they have a total of 32 legs?

2. In the Middle

John is both the 10th tallest and the 10th shortest in his class. How many students are in his class?

3. Filling in the Boxes

Put each of the digits 1, 2, 3, 4, 5, 6 into a box in order to create a correct multiplication problem.

$$\begin{array}{r} \square \square \\ \times \square \\ \hline \square \square \square \end{array}$$

Individual Work

Division with Zeroes. Do each of the following problems

- | | | |
|----------------------|--------------------------|-----------------------------|
| 1. $1400 \div 7$ | 4. $720 \div 90$ | 7. $63,000 \div 700$ |
| 2. $36,000 \div 4$ | 5. $21,000 \div 3,000$ | 8. $200,000 \div 40$ |
| 3. $600,000 \div 12$ | 6. $440,000 \div 40,000$ | 9. $25,000,000 \div 50,000$ |

Fact Families. With each problem, first do the calculation, and then also give the three other facts in the fact family.

10. $514 + 486$
11. $50,000 - 400$
12. $564 \div 6$
13. 13×63

Division Circles. For each one given below, give the other three parts of the division circle (as I did in the lecture).

14. $23 \div 4$
15. $\frac{34}{9}$
16. $8\frac{2}{3}$

Divisibility.

17. Is 94,626,810 divisible by 2, 3, 4, 5, 9, or 10?
18. Is 814 divisible by 11?

Remainders. With each division problem, you only need to give the remainder.

- | | | |
|-----------------------------|----------------------------|-------------------------|
| 19. $39 \div 5$ | 27. $39 \div 4$ | 31. $41 \div 9$ |
| 20. $89 \div 5$ | 28. $79 \div 4$ | 32. $23 \div 9$ |
| 21. $647,849,079 \div 5$ | 29. $4,739 \div 4$ | 33. $104 \div 9$ |
| 22. $3,206,943,732 \div 5$ | 30. $3,206,943,738 \div 4$ | 34. $647 \div 9$ |
| 23. $39 \div 10$ | | 35. $7,254 \div 9$ |
| 24. $74 \div 10$ | | 36. $47,849,089 \div 9$ |
| 25. $647,849,079 \div 10$ | | 37. $854 \div 3$ |
| 26. $3,206,943,732 \div 10$ | | 38. $47,849,089 \div 3$ |