7th Grade - 1st Term Assessment - Study Guide

The Term 1 Assessment will cover the following concepts:

- 1 - Absolute Values
- 2 - Integer Operations
- 2.5 - Simplifying Expressions
- 3 - Rational Numbers
- 4 - Adding and Subtracting Rational Numbers
- 5 - Multiplying and Dividing Rational Numbers
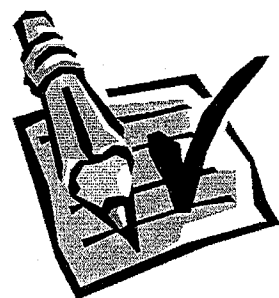
1. When adding two integers, if the signs are the same, you __add them__.

2. When adding two integers, if the signs are different, you __subtract them__

3. When subtracting two integers, it is often easier to change the problem into an __addition__ problem, by __adding the opposite__

4. When multiplying/dividing two integers, if both of the signs are the same, the result will be __positive__.

5. When multiplying/dividing two integers, if the signs are different, the result will be __negative__.

6. $6 + (-2) =$ **4**

7. $-4 + -7 =$ **-11**

8. $3 - 10 =$ **-7**

9. $-12 - 10 =$ **-22**
   $-12 + -10$

10. $-8 + 4 =$ **-4**

11. $-3 * -6 =$ **18**

12. $-9 * -9 =$ **81**

13. $20 - (-10) =$ **30**

14. $-25 \div 5 =$ **-5**

15. $10 - 8 =$ **2**

16. $-4 - (-5) =$ **1**

17. $(-6)(-7) =$ **42**

18. $49 \div -7 =$ **-7**

19. $8 - (-5) =$ **13**
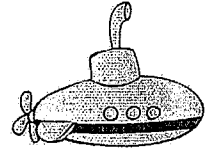
20. $-5 + (-13) =$ **-18**

21. $-4 * -8 =$ **32**

22. A submarine is 200 feet below sea level. The submarine descends 100 feet. What is the submarine's new depth? Explain your thinking.

300 ft below sea level (-300 ft)

23. Tom is out on an adventurous hike. He is 82 meters below sea level. Tom climbs 22 meters. Express Tom's height as an integer, comparing it to sea level. Explain your thinking.

− 60 meters

24. The following table shows the amount of strokes, above / below par, in half a game of golf. What is the golfer's score?

Hole	1	2	3	4	5	6	7	8	9
Score	0	-1	2	-2	0	1	-1	0	-1

-2 (or 2 under par)
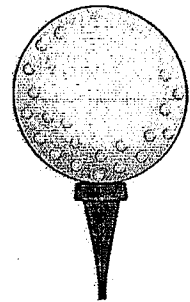
25. When adding two integers, explain how you know the sign of the resulting sum.

the larger absolute value wins out.

26. $\frac{6}{7} - \frac{1}{3} =$

$\frac{18}{21} - \frac{7}{21} = \boxed{\frac{11}{21}}$

31. $\frac{\cancel{4}}{\cancel{8}} * \frac{\cancel{15}^5}{\cancel{22}_{11}} = \boxed{-\frac{5}{11}}$

27. $\frac{2}{3} + \frac{4}{5} =$

$\frac{10}{15} + \frac{12}{15} = \frac{22}{15} = \boxed{1\,^7/_{15}}$

32. $+\frac{5}{8} \div +\frac{20}{56} =$

$\frac{5}{8} \times \frac{\cancel{56}^7}{\cancel{20}_4} = \frac{7}{4} = \boxed{1\,^3/_4}$

28. $-\frac{1}{4} + \frac{2}{5} =$

$-\frac{5}{20} + \frac{8}{20} = \boxed{^3/_{20}}$

33. $\frac{\cancel{16}^2}{\cancel{35}_5} * \frac{\cancel{21}}{\cancel{24}} = \boxed{\frac{2}{5}}$

29. $-1\frac{1}{3} - \frac{5}{9} =$

$-1\frac{3}{9} + -\frac{5}{9} = \boxed{-1\,^8/_9}$

34. $+1\frac{2}{3} \div +2\frac{1}{4} =$

$\frac{5}{3} \times \frac{4}{9} = \boxed{\frac{20}{27}}$

30. $3\frac{2}{7} + 2\frac{2}{3} =$

$3\frac{6}{21} + 2\frac{14}{21} = \boxed{5\frac{20}{21}}$

35. $3\frac{1}{4} \times 2\frac{2}{3} =$

$\frac{13}{\cancel{4}} \times \frac{\cancel{8}^2}{3} = \frac{26}{3} = \boxed{8\,^2/_3}$

36. Sarah has a piece of uber-licorice. It is 8 feet long! Sarah decides to share her licorice with some friends. She gives Adam $1\frac{1}{2}$ feet, Michelle $2\frac{3}{4}$ feet and Kim $1\frac{5}{6}$ feet. How much licorice does Sarah have left over for herself?

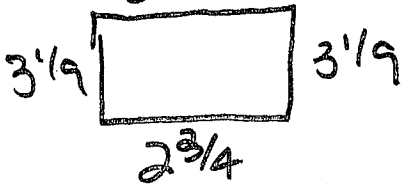$$1\frac{6}{12} + 2\frac{9}{12} + 1\frac{10}{12} = 4\frac{25}{12} = 6\frac{1}{12}$$

$$8 - 6\frac{1}{12} = \boxed{1\frac{11}{12} \text{ feet}}$$

37. A picture frame is $2\frac{3}{4}$ meters by $3\frac{1}{9}$ meters. What is the perimeter of the picture frame?

$$2^{3}/4 \quad 2\frac{27}{36} + 3\frac{4}{36} = 5\frac{31}{36} \times 2 = 10\frac{62}{36}$$

$$11\frac{26}{36}$$

$$\boxed{11\,^{13}/_{18} \text{ Meters}}$$

$3'/9$ [left side] ... $3'/9$ [right side] ... $2^{3}/4$ [top] ... $2^{3}/4$ [bottom]

38. Sam is making cookies. After checking the flour jar, Sam sees that there is $12\frac{2}{3}$ cups of flour left. The recipe that Sam is using calls for $2\frac{1}{4}$ cups for each batch of cookies. How many batches of cookies does Sam have enough flour for?

$$\frac{38}{3} \times \frac{4}{9} = \frac{152}{27} = 5\,^{17}/27$$

$$\boxed{\text{enough for 5 batches}}$$

$2'/4 \quad 4^{2}/4 \quad 6^{3}/4 \quad 9 \quad 11'/4 \quad 13^{3}/4$