Unit 1: Number Skills Pretest

Math 9 Principles

Name: _____   Block: _____

	Please initial this box to indicate you carefully read over your test and checked your work for simple mistakes.

	What I can do in this unit	Level
1-1	I can identify numbers on a number line, compare positive and negative numbers, and evaluate absolute values.	
1-2	I can combine successive signs and add or subtract two or more integers. (positive or negative)	
1-3	I can evaluate expressions with integers using correct order of operations.	
1-4	I can add or subtract two or more fractions (in mixed number form or improper).	
1-5	I can multiply or divide two or more fractions, remembering to simplify before evaluating. I always reduce!	

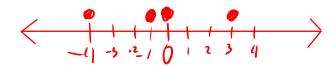| Code	Value	Description
N	Not Yet Meeting Expectations	I just don't get it.
MM	Minimally Meeting Expectations	Barely got it, I need some prompting to help solve the question.
M	Meeting Expectations	Got it, I understand the concept without help or prompting.
E	Exceeding Expectations	Wow, nailed it! I can use this concept to solve problems I may have not seen in practice. I also get little details that may not be directly related to this target correct.

1-1: I can identify numbers on a number line, compare positive and negative numbers, and evaluate absolute values.

1. Evaluate: $|6 - 27|$

   $= |-21| = 21$

2. Place a <, >, or a = sign between the following to make it true:

   4_____$|1 - 7|$

   $4 < 6$

3. Evaluate: $|-3| - |-10|$

   $= 3 - 10 = -7$

4. $|-2 + 6| - |-7|$

   $= |4| - 7$

   $= 4 - 7 = -3$

5. Graph the following numbers on a number line $-4, 3, 0, -1,$

6. Evaluate the expression $|x + y|$ when $x = 3$ and $y = -1$.

   $|3 + -1| = |2| = 2$

7. Evaluate the expression $|a| - |b - c|$ when $a = -6, b = 10$, and $c = -8$.

   $|-6| - |10 - -8|$

   $= |-6| - |18|$

   $= 6 - 18 = -12$

1-2: I can combine successive signs and add or subtract two or more integers. (positive or negative)

8. Evaluate: $4 - (-1) =$ $4 + 1 = \boxed{5}$

9. Evaluate: $-4 - 12 =$ $\boxed{-16}$

10. Evaluate: $2 - (1 - 9) =$ $2 - -8 = \boxed{10}$

11. Evaluate: $(4 - 7) - (-3 + 8) =$
$= (-3) - (5) = -3 - 5 = \boxed{-8}$

12. Evaluate: $8 + (-1 - 8 + 3) =$
$= 8 + (-6) = 8 - 6 = \boxed{2}$

13. Find the value that should go in the blank in order for the statement to be true.
$3 - \underline{\quad} = -7$
$\boxed{10}$

14. Find the value that should go in the blank in order for the statement to be true.
$\underline{\quad} - (-8) = 6$
$\underline{\quad} + 8 = 6$
$\boxed{-2}$

1-3: I can evaluate expressions with integers using correct order of operations.

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15. Evaluate: $20 - 3(7) =$ $20 - 21 = \boxed{-1}$

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16. Evaluate: $(-6 - 4)(-5 + 3) =$

$= (-10)(-2) = \boxed{20}$

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17. Evaluate: $8 - 2(0 - -8) =$ $8 - 2(8)$

$= 8 - 16 = \boxed{-8}$

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18. Evaluate: $2(9 - 12) - 3(-5 + 1) =$

$= 2(-3) - 3(-4)$

$= -6 + 12 = \boxed{6}$

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19. Evaluate: $-(3 + -7) - 4(-10 - -8) =$

$= -(3 - 7) - 4(-10 + 8)$

$= -(-4) - 4(-2)$

$= 4 + 8 = \boxed{12}$

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20. Evaluate: $-8 + -3(-5 - -2) =$

$= -8 - 3(-5 + 2)$

$= -8 - 3(-3)$

$= -8 + 9 = \boxed{1}$

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21. Evaluate: $\frac{-4-2}{-2+4}$ $= \frac{-6}{2} = \boxed{-3}$

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22. Evaluate: $\frac{3(-5)-4(8-11)}{(5-6)(-7--1)}$ $= \frac{-15 - 4(-3)}{-1(-7+1)} = \frac{-15 + 12}{-(-6)} = \frac{-3}{6} = \boxed{-\frac{1}{2}}$

1-4: I can add or subtract two or more fractions (in mixed number form or improper).

23. Complete the equivalent fraction statement: $\frac{2 \cdot 6}{9 \cdot 6} = \frac{12}{54}$

24. Reduce to lowest terms: $\frac{56 \div 8}{16 \div 8} = \frac{7}{2}$

Rewrite each question with common denominators then add or subtract as required.

25. $\frac{2}{3} + \frac{3}{4} = \frac{8}{12} + \frac{9}{12} = \frac{17}{12}$

26. $\frac{5}{8} - \frac{2}{3} = \frac{15}{24} - \frac{16}{24} = -\frac{1}{24}$

27. $2\frac{1}{2} - 4\frac{1}{3} = \frac{5}{2} - \frac{13}{3} = \frac{15}{6} - \frac{26}{6} = -\frac{11}{6}$

28. $\frac{5}{6} + \frac{3}{4} = \frac{10}{12} + \frac{9}{12} = \frac{19}{12}$

29. $\frac{5}{6} - 1\frac{1}{15} = \frac{5}{6} - \frac{16}{15} = \frac{25}{30} - \frac{32}{30} = -\frac{7}{30}$

1-5: I can multiply or divide two or more fractions, remembering to simplify before evaluating. I always reduce!

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30. Write the reciprocal of $-2\frac{1}{3}$.

$-\frac{7}{3} \longrightarrow \boxed{-\frac{3}{7}}$

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31. Evaluate: $\frac{5}{9} \cdot \frac{3}{20}$

$\frac{\cancel{5}}{3\cancel{9}} \cdot \frac{\cancel{3}}{20\,4} = \boxed{\frac{1}{12}}$

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32. Evaluate: $2 \div \frac{3}{2} = 2 \cdot \frac{2}{3} = \boxed{\frac{4}{3}}$

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33. Evaluate: $3\frac{1}{5} \div 1\frac{1}{3}$

$= \frac{16}{5} \div \frac{4}{3} = \frac{^4\cancel{16}}{5} \cdot \frac{3}{\cancel{4}\,1} = \boxed{\frac{12}{5}}$

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34. Evaluate: $-2\frac{1}{4} \div \frac{15}{32} \div \frac{36}{25}$

$= -\frac{\cancel{9}\,1}{\cancel{4}\,1} \cdot \frac{32\,^{\cancel{2}\,8}\,25}{\cancel{15}\,3} \cdot \frac{^5 25}{\cancel{36}\,\cancel{9}\,1} = \boxed{-\frac{10}{3}}$

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35. Evaluate: $\left(\frac{7}{8} - \frac{3}{4}\right) \cdot \left(\frac{2}{3} \div \frac{1}{3}\right)$

$\frac{7}{8} - \frac{3}{4} = \frac{7}{8} - \frac{6}{8} = \frac{1}{8}$

$\left(\frac{1}{8}\right)\left(\frac{2}{\cancel{3}} \cdot \frac{\cancel{3}}{1}\right)$

$= \frac{1}{^4 8}(2) = \boxed{\frac{1}{4}}$

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36. A rectangular hallway has dimensions 6 feet by 18 feet. It is to be tiled with square tiles, each with the dimensions $\frac{2}{3}$ feet by $\frac{2}{3}$ feet. How many tiles will you need?

$6 \div \frac{2}{3} = \cancel{6}^{\,3} \cdot \frac{3}{\cancel{2}} = 9$

$18 \div \frac{2}{3} = \cancel{18}^{\,9} \cdot \frac{3}{\cancel{2}} = 27$

$9 \cdot 27 = \boxed{243}$

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37. A recipe calls for three quarters of a bowl of flour and one sixth of a bowl of sugar, then to fill the remainder of the bowl with milk. What fraction of the bowl is filled with milk?

$1 - \frac{3}{4} - \frac{1}{6} = \frac{12}{12} - \frac{9}{12} - \frac{2}{12} = \boxed{\frac{1}{12}}$