

Name: _____ Date: _____

Unit 2 Test Review: Arithmetic to Algebra

Order of operations

1. $5(-18 \div 3)$	2. $6(2^5 + 1) - 2$	3. $-17 - 4(3 + 2)$
4. $5/(-3+4 - -4)$	5. $3.2\left(\frac{1}{2} + 4\right) - 1$	6. $\frac{4^2-8^3}{16}$
7. The highest temperature recorded in August in Marietta was 40° C. The formula for converting Celsius into Fahrenheit is modeled by $F = \frac{9}{5}(40) + 32$. Evaluate the expression to determine the temperature in Fahrenheit.		

Evaluation

8. $x + z^2$ where $x = -5$ and $z = 5$	9. $5 - (y - x)$ where $x = 2$ and $y = 3$	10. $z + y - 2x$ where $x = 2$, $y = 5$, and $z = 1$
11. $\frac{2x-y}{3}$ where $x = 5$ and $y = 1$	12. $2x^3 - y(x + z)$ where $x = 2$ $y = 3$ and $z = -2$	13. $m^2 + q$ where $m = -1$ and $q = 2$
14. The formula for the circumference of a circle is $C = 2 * \pi r$. Find the circumference of a circle with a radius of 4 cm.		

Combining like terms

15. $6 + 4x + 2x + 3$	16. $-9m - 6 - 8m$
17. $x + 5 + 5x + 4$	18. $9 - 17y + 5 + 6y$

19. $-9n + n - 5 + 6$	20. $6x - 2 + 3x$
21. $-2d - 7 + 2 + 6d$	22. $x + x + 1$
23. Harry and William are filling water balloons for a water balloon fight. Harry can fill balloons at a rate of $5x + 6$ and William fills balloons at a rate of $12x + 10$ where x represents hours. Write an expression that represents the total number of balloons they can fill together.	

Writing Expressions

24. The difference of a number and four	25. Twice a number increased by 16
26. 18 less than the product of four and a number	27. The quotient of five and a number increased by four
28. The difference of 13 and a number	29. The sum of five and a number divided by two
30. Gary makes six dollars less than twice what Mary makes. Write an expression that represents this.	

Radical Operations (true/false)

- 31) When adding/ subtracting radicals the number under the radical must be the same
- 32) When multiplying radicals the number under the radical must be the same
- 33) When multiplying radicals the numbers outside the radical are added together
- 34) When adding/subtracting radicals the numbers on the inside of the radical are added together

35) When adding/subtracting radicals the numbers on the outside of the radical are added together

For each of the following determine

a) if it is an adding/subtracting problem or a multiplication problem (circle one)

b) simplify the problem

34) $\sqrt{100}$ (Simplify)(Multiply)(Combine)	35) $-4\sqrt{120}$ (Simplify)(Multiply)(Combine)
36) $\sqrt{90} + \sqrt{40}$ (Simplify)(Multiply)(Combine)	37) $5\sqrt{6} + \sqrt{6}$ (Simplify)(Multiply)(Combine)
38) $-4\sqrt{6} \cdot \sqrt{6}$ (Simplify)(Multiply)(Combine)	39) $4\sqrt{20} \cdot \sqrt{10}$ (Simplify)(Multiply)(Combine)
40) $-3\sqrt{98}$ (Simplify)(Multiply)(Combine)	41) $\sqrt{45} + \sqrt{20}$ (Simplify)(Multiply)(Combine)