Alg I
7-9 Periods
Day 3

NAME _____ DATE _____

Cumulative Review (Chapters 1–7)

1. Evaluate $(2x + 5y)^2$ if $x = 0$ and $y = -\frac{4}{3}$. 1. _____

2. State the property shown in $8 \cdot 1 = 8$. 2. _____

Simplify.

3. $7(5c + 2c + 6)$ 3. _____

4. $4r + 3t + 2t + 6r$ 4. _____

Find each sum or difference.

5. $-25 + 9$ 5. _____

6. $-36wz + 14x + (-10wz) + (-12x)$ 6. _____

7. $-42 - 17$ 7. _____

8. Solve $y + \frac{2}{3} = \frac{5}{3}$. 8. _____

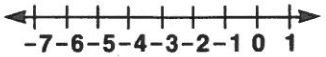
Simplify.

9. $\left(-\frac{3}{4}\right)\left(-\frac{4}{5}\right)\left(-\frac{5}{6}\right)$ 9. _____

10. $\frac{54}{-6}$ 10. _____

11. Solve $\frac{a}{6} - 5 = 12$. 11. _____

12. Twenty-eight is 40% of what number? 12. _____

13. Graph the solution set of $y \leq -4$ on a number line. 13. 

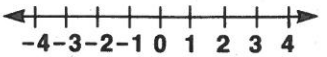
Solve each inequality.

14. $\frac{m}{-8} < -4$ 14. _____

15. $9 - 4x \leq 21$ 15. _____

16. Which is a better buy, a 15-ounce can of soup for 98¢ or a 10-ounce can of soup for 55¢? 16. _____

17. Solve the open sentence $|3m + 1| < 7$. Then graph its solution set. 17. _____



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Cumulative Review (Chapters 1–7)

Simplify.

18. $(-4x^5y^3)(2xy^2)$

19. $\left(\frac{2}{3}c^2d^3\right)^4$

20. $\frac{21hk^3j}{-14h^5kj^8}$

21. Elisabeth is 6 years older than her sister Elisa. Their mother's age is twice the sum of their ages. How old are they if their mother is 40?

22. How many pounds of peanuts costing \$2.00 a pound should be mixed with 4 pounds of cashews costing \$4.50 a pound to obtain a mixture costing \$3.00 a pound?

23. Arrange the terms of $4x - 3 + 2x^2 + 3x^3$ so that the powers of x are in descending order.

24. Find $(4xy + 3x^2y - 5y^2) - (3y^2 - 5xy + 7x^2y)$.

25. Simplify $(a^2 - 2)(3a^2 + 3)$.

26. Solve $3(m - 1) + 3m = 4(8 - m)$.

27. Sara leaves home at 7 A.M. traveling at a rate of 45 mi/h. Her son discovers that she has forgotten her briefcase and starts out to overtake her. Her son leaves at 7:30 A.M. traveling at a rate of 55 mi/h. At what time will he overtake his mother?

Factor, if possible.

28. $27f^2g^2 + 18f^2g^3 - 3f^2g$

29. $x^2 - 9$

30. $a^2 + a - 12$

31. $mn + 2an + 3m + 6a$

32. $3r^2 - r - 10$

33. The square of a number added to three times the number is zero. What is the number?

18. _____

19. _____

20. _____

21. _____

22. _____

23. _____

24. _____

25. _____

26. _____

27. _____

28. _____

29. _____

30. _____

31. _____

32. _____

33. _____