

Cumulative Review

For use after Chapters 1-5

Evaluate the expression. (1.1)

1. $-3 + 3(-2 + 5)^2$ 2. $(-5)^2$ 3. -5^2

Simplify and evaluate the expression for the given value of the variable. (1.2)

4. $x^2 + 8 - x$ when $x = -2$
 5. $3a^2 + a - 2a^2$ when $a = 3$
 6. $2(n + 1) - 4(n - 2)$ when $n = -1$

Solve the equation. (1.3)

7. $\frac{1}{2}x + \frac{1}{3} = 2x - \frac{1}{5}$ 8. $3(2x - 1) = -4(-x + 1) + 5$

Solve the inequality and draw its graph. (1.5)

9. $3x + 1 < 2x + 3$ 10. $2x - 3 \geq 5x + 1$ 11. $-4x + 3 > 3x$

Solve the compound inequality. (1.6)

12. $3x + 1 < 2x + 9$ or $5x + 3 < 53$ 13. $-4 < -2x + 4 < 12$

Solve the absolute value equation or inequality. (1.7)

14. $|3x - 5| = 10$ 15. $|4x - 2| > 10$ 16. $|x - 2| < 6$

Evaluate the function when $x = 5$. (2.1)

17. $g(x) = -x^2 + 2$ 18. $f(x) = (-x)^2 + 2$ 19. $f(x) = (x - 3)^2 + 5$

Find the slope of the line passing through the points. (2.2)

20. $(4, -3)$ and $(6, 5)$ 21. $(2, 0)$ and $(8, 0)$ 22. $(5, 8)$ and $(5, 14)$

Tell whether the two lines are parallel, perpendicular, or neither. (2.2)

23. Line 1: through $(-5, 3)$ and $(8, 4)$ Line 2: through $(2, 7)$ and $(1, 20)$
 24. Line 1: through $(5, -9)$ and $(-2, 5)$ Line 2: through $(6, 3)$ and $(9, 9)$

Write the equation with the given slope and y-intercept. (2.3)

25. $m = 5; b = 3$ 26. $m = 0; b = 4$ 27. $m = \frac{3}{2}; b = -2$

Graph the equation. (2.3)

28. $y = \frac{-3}{2}x + 5$ 29. $y = 4x - 6$ 30. $y = 5x$

Write the equation of the line that passes through the given point and has the given slope. (2.4)

31. $(5, -1); m = \frac{1}{4}$ 32. $(6, 0); m = -2$ 33. $(4, 5); m = 1$

Graph the inequality. (2.6)

34. $y \geq \frac{3}{2}x - 3$ 35. $y < -x + 5$ 36. $2x - y < 4$

NAME _____ DATE _____
 Alg: 2 STUDY - GUIDE: MID-TERM JMA 15