

Semester One Review Packet ~ Due: _____
→ Work Must be Shown When Applicable ←

Keep and correct this packet, as it will come in handy when studying for standardized tests: ACT/SAT and college placement exams.

Pace yourself – Do not wait until the night before it is due.

On the exam, you may use a “*CHEAT SHEET*.”

- Computer / Lined Paper ($8\frac{1}{2}$ inches by 11 inches)
- Front and Back Permitted
- Formulas / Examples / Reminders / Words of Encouragement...
- Handwritten or Printed (for smaller font)
- Nontransferable During Exam
- Advisable to Make Additions While Completing the Packet
- Advisable to Make Items Easy To Find
- Keep for Future Classes/Exams...

*You will most likely find that the cheat sheet will only serve as a “crutch.” If you do not know how to use the formulas, it will not help.

On exam day, bring:

- ✓ Calculator You're Familiar With
- ✓ Cheat Sheet
- ✓ Pencil
- ✓ Scrap Paper
- ✓ Something to Keep You Busy

*Headphones / Phones are only permitted when your exam is submitted and must not be heard by anyone but yourself.

IMPORTANT: NO ASSIGNMENTS WILL BE ACCEPTED AFTER SCHEDULED FINAL EXAMS.

Good luck on the exam and in the future. I hope you learned a lot this semester! 😊

Algebra I Semester 1 REVIEW

What is an algebraic expression for the word phrase?

1. the sum of f and 2
2. the difference of m and 8
3. the product of a and 12
4. the quotient of n and 5
5. 4 times the sum of h and w

What word phrase can you use to represent the algebraic expression?

6. $6x + 8$
 - a. the sum of six times a number x and eight
 - b. six times the sum of a number x and eight
 - c. eight times the sum of a number x and six
 - d. a number x times the sum of six and eight
7. Evaluate $(ab)^2$ for $a = 9$ and $b = 5$.

What is the simplified form of each expression?

8. $\sqrt{144}$

9. To which subsets of the real numbers does the number 0.54 belong?
- a. rational numbers, irrational numbers
 - b. rational numbers
 - c. natural numbers, whole numbers, integers, rational numbers
 - d. none of the above

10. What is the order of $\sqrt{5}$, -0.5 , $-\frac{7}{5}$, 0.4 , $\sqrt{2}$ from least to greatest?
- a. $\sqrt{5}$, $\sqrt{2}$, 0.4 , $-\frac{7}{5}$, -0.5
 - b. 0.4 , $\sqrt{2}$, $-\frac{7}{5}$, $\sqrt{5}$, -0.5
 - c. -0.5 , 0.4 , $\sqrt{2}$, $\sqrt{5}$, $-\frac{7}{5}$
 - d. $-\frac{7}{5}$, -0.5 , 0.4 , $\sqrt{2}$, $\sqrt{5}$

Simplify each expression.

11. $(8 + 10y) + 3$
- a. $8 + 13y$
 - b. $11 + 10y$
 - c. $11 + 13y$
 - d. $21y$

12. Simplify.

$$-9(10a)$$

- a. $-90a$
- b. a
- c. $-a$
- d. $-\frac{9}{10}a$

What is the simplified form of each expression?

13. $\frac{2}{3}(-3m + 39)$

What is the simplified form of each expression?

14. $1.7m^2 + 6.5n - 4n + 2.5m^2 - n$

What is the solution of each equation? Use mental math.

15. $x + 1 = 21$

16. $\frac{x}{3} = 7$

What is the solution of the equation?

17. $-5 = u + 2$

a. -7

b. -3

c. 10

d. $-\frac{5}{2}$

18. $6 = 4d$

a. 1.5

b. $\frac{1}{4}$

c. 6

d. 2.5

What is the solution of the equation?

19. $6 = -d + 19$

20. $\frac{5}{9}x - 7 = -2$

What is the solution of the equation?

21. $-25 = \frac{2+z}{-5}$

What is the solution of the equation?

22. $-1 = 8p - 10 - 7p$

23. $-6y + 14 + 4y = 32$

What is the solution of the equation?

24. $5(y - 6) = -15$

What is the solution of the equation?

25. $4x + 7 = 5x + 3$

26. $40 - 5t = 3t$

What is the solution of each equation?

27. $14 - 9z = -5 - 9z$

a. -1

b. infinitely many solutions

c. no solution

d. $-1\frac{1}{18}$

What is the solution of the proportion?

28. $\frac{23}{26} = \frac{d}{104}$

a. 2704

b. 598

c. 2392

d. 92

29. $\frac{h}{24} = \frac{16}{6}$
a. 144 b. 96 c. 384 d. 64

What is the solution of the proportion?

30. $\frac{x-2}{8} = \frac{9}{6}$
31. A van travels 200 miles on 10 gallons of gas. Find how many gallons the van needs to travel 400 miles.

What inequality represents the verbal expression?

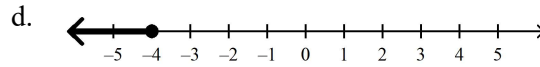
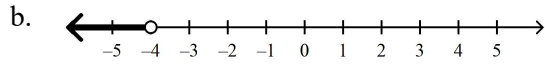
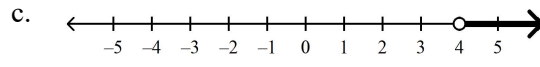
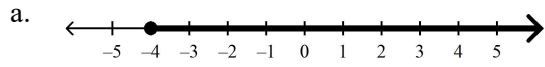
32. all real numbers greater than or equal to 29
a. $x > 29$ b. $x < 29$ c. $x \geq 29$ d. $x \leq 29$

Which number is a solution of the inequality?

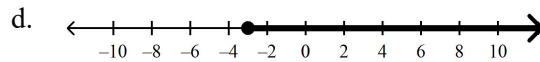
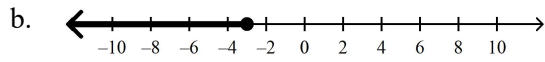
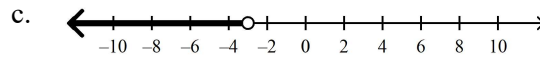
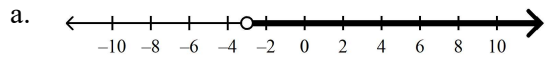
33. $8 \geq 8w$
a. 11 b. 2 c. 1 d. 18
34. $11 \leq 8x - 1$
a. $\frac{3}{2}$ b. $\frac{1}{3}$ c. $-\frac{1}{12}$ d. 1

What is the graph of the inequality?

35. $n < -4$



36. $x \leq -3$



What are the solutions of the inequality? Graph the solutions.

37. $x - 2 \leq -6$

What are the solutions of the inequality? Graph the solutions.

38. $\frac{x}{9} > 7$

What are the solutions of the inequality? Graph the solutions.

39. $-2s < -10$

What are the solutions of the inequality? Check the solutions.

40. $-2x + 8 < -4$

Which is a solution of the inequality?

41. $7(w - 4) > 42$

What are the solutions of the inequality?

42. $6 + 10q \geq 4(q + 6)$

43. $19k - 4 \leq 20k + 7$

What are the solutions of the inequality?

44. $-10x + 5 + 13x \geq 3x + 6$

a. $x \geq -1$

b. $x \leq 1$

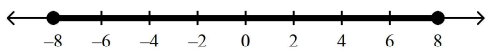
c. all real numbers

d. no solution

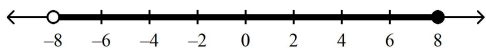
What compound inequality represents the phrase? Graph the solutions.

45. all real numbers that are greater than -8 and less than 8

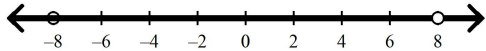
a. $-8 \leq x \leq 8$



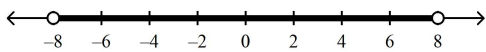
b. $-8 < x \leq 8$



c. $-8 < x < 8$

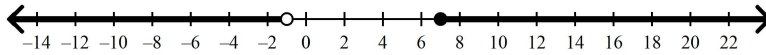


d. $-8 < x < 8$

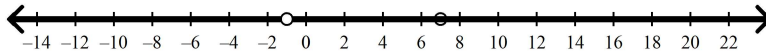


46. all real numbers a that are less than -1 or greater than 7

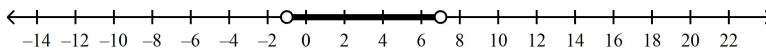
a. $a < -1$ or $a \geq 7$



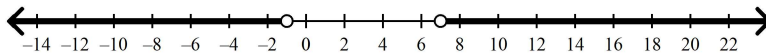
b. $a < 7$ or $a > -1$



c. $-1 < a < 7$



d. $a < -1$ or $a > 7$



What are the solutions of the compound inequality? Graph the solutions.

47. $-4 \leq 2x - 4 < 6$

48. $-7 < 2x - 5 < 5$

What are the solutions of the equation? Graph and check the solutions.

49. $|x| + 2 = 1$

What are the solutions of the inequality? Graph the solution.

50. $|5x| \geq 20$