

Name:

Date:

Hour:

Unit 2 Review

Simplify each of the following expressions.

1. $4(5b + 9)$

2. $-4(-7 + 2t)$

3. $3h + 2(4h - 6)$

4. $-\frac{1}{3}b + -\frac{2}{7}b$

5. $9 - (3s - 1)$

6. $2v + 3 - 6(8 - v)$

Solve each of the following equations. Show all of your work.

7. $r + 12 = -15$

8. $6 - c = 10$

9. $-5x = 45$

10. $8 = \frac{t}{3}$

Solve each of the following equations. Show all of your work.

11. $6g + 12 = 30$

12. $-3.6 = 6.2 - 7m$

13. $2(f + 4) = 18$

14. $-4(3 - 2x) - 5x = 9$

15. Explain how to solve the equation below to a new student who has never solved an equation before

$$2(2x - 4) = -20$$

For each of the following situations, write and solve a linear equation.

- 16.** Lauren is saving up to buy a TV for her bedroom which costs \$165. Each week she earns \$15 for babysitting. How many weeks will it take Lauren to have saved enough money for the TV?
- 17.** Tyler has a 6,800 gallon, above-ground pool that has a leak. Each hour, 1.5 gallon leaks out of the pool. How many hours will it take until there are 6,260 gallons remaining? How long is that in days?
- 18.** The small village of Hurstberg has 548 residents. Each year, 55 new residents move to Hurstberg. How long will it Hurstberg to reach 1,000 residents?
- 19.** A truck has a 28-gallon fuel tank. Each hour, the truck uses about 5.6 gallons of fuel. If there are 19.6 gallons left in the fuel tank, how long has the car been driving for?

Graph each of the following inequalities/equations. Then, provide a possible solution.

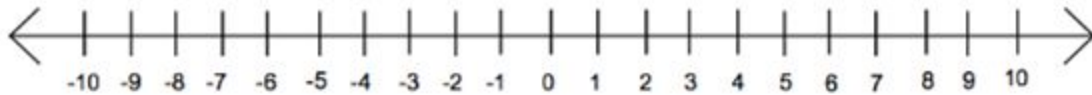
20. $x > 2$

Possible Solution _____



21. $-4 \geq x$

Possible Solution _____



22. $x < 7$

Possible Solution _____



23. $0 \leq x$

Possible Solution _____



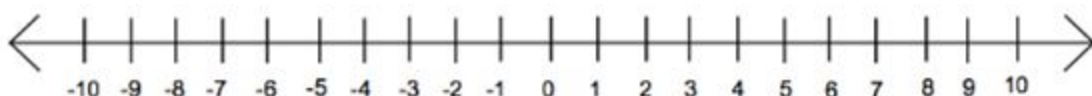
24. $x = 3$

Possible Solution _____



25. $x \neq 6$

Possible Solution _____



Solve each of the inequalities below. Show all of your work.

26. $-11 + x > 6$

27. $10 \leq n + 4$

28. $-12r > 24$

29. $8 < \frac{w}{4}$

30. $10 + 2k \geq 30$

31. $-7 > -7d + 7$

32. $2(10 - x) < 30$

33. $10 \leq 5(2x + 6)$

34. What are some similarities between solving equations and solving inequalities?

35. What are some differences between solving equations and solving inequalities?

Write an inequality for each of the following situations.

36. Tom must have less than 4 missing assignments, otherwise he will be grounded.

37. To avoid getting charged banking fees, your account must maintain a balance of at least \$100.

38. The president of the USA is permitted to serve as president for no more than 2 years.

39. Each bag of skittles must be greater than 2 ounces. It also must be less than 2.5 ounces.

40. An elevator is able to safely hold at most 14 people.