

Use Algebraic Notation AND Show All of Your Work

Solve each equation. State the solution set.

[7, 2 pts]

1. $-2.7 + w = -5.3$

[8, 2 pts]

2. $13 - 3r + 2 + 6r - 2r - 2r - 1 = 3 + 2 \cdot 9$

[8, 2 pts]

3. $18 - 7x = 12 - 6x$

[8, 4 pts]

4. In your own words, explain the **Addition Property of Equality**. Give one example.

Solve each equation. State the solution set.

[8, 2 pts]

5. $25 = -\frac{5}{8}x$

[10, 2 pts]

6. $-3y - 2 = -5 - 4y$

[11, 2 pts]

7. $-72.8y + 455.43 = 14.6 - 4.98y$

[8, 4 pts]

8. In your own words, explain the **Multiplication Property of Equality**. Give one example.

Solve each equation. State the solution set.

[11, 2 pts]

9. $-2 + 5(2x - 8) = 3 + 5(x - 3)$

[13, 2 pts]

10. $\frac{3x}{5} - \frac{6}{15} = \frac{x}{3} + \frac{2}{5}$

[10, 2 pts]

11. $4(x+2)+1=7x-3(x-2)$

[9, 2 pts]

12. $5-x=4x+5$

[10, 2 pts]

13. $5x-5=3x-7+2(x+1)$

Solve each formula for the specified variable.

[9 pts]

14. $T = D + pm$, for p

[10 pts]

15. $A = \frac{1}{2}h(a + b)$, for a

[2, 6, 8, 2 pts]

16. 3 is what percent of 15?

(Use a variable, create an equation, solve using algebra, and answer in a sentence.)

[3, 10, 10, 2 pts]

17. A car rental agency charges \$200 per week plus \$0.15 per mile to rent a car. How many miles can you travel in one week for \$320? (*Define a variable, create an equation, solve using algebra, and answer in a sentence.*)

[4, 3, 8, 10, 2 pts]

18. A rectangular field is four times as long as it is wide. If the perimeter of the field is 500 yards, what are the field's dimensions? (*Draw a diagram of the situation, define a variable, create an equation, solve using algebra, and answer in a sentence.*)

[3, 10, 10, 2 pts]

19. After a 20% reduction, you purchase a television for \$320. What was the television's price before the reduction? (*Define a variable, create an equation, solve using algebra, and answer in a sentence.*)

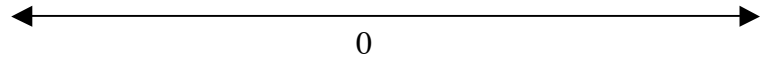
[4, 3, 8, 10, 2 pts]

20. One angle of a triangle is twice as large as the smallest angle. The measure of the third angle is 20 more than that of the smallest angle. Find the measure of each angle. (*Draw a diagram of the situation, define a variable, create an equation, solve using algebra, and answer in a sentence.*)

Solve each inequality, and state the solution set. Graph this solution set on a number line.

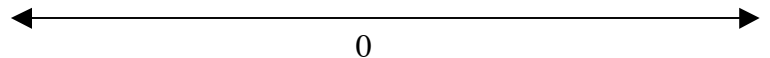
[10, 3, 4 pts]

21. $3 - 7x \leq 20$



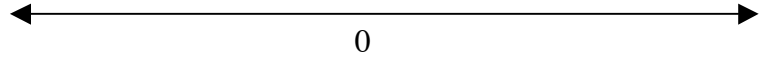
[12, 3, 4 pts]

22. $4y - 7 > 9y - 2$



[14, 3, 4 pts]

23. $7 - 2(x - 4) \geq 5(1 - 2x)$



[8, 4 pts]

24. When solving an inequality, under what conditions will it be necessary to **change the direction of the inequality symbol**? Give one example.