

Algebra I  
Notes 4.3 Multiplication and Division Equations

Objective: Solve multiplication and division equations.

Review

Solve addition equations by using subtraction. Solve subtraction equations by using addition.

$$x + 2 = 10$$

$$-2 = x + 4$$

$$x - 4 = 9$$

$$-5 = x - 2$$

Multiplication Equations

You solve multiplication equations by using division.

Division Property of Equality

If each side of an equation is **divided by** equal nonzero numbers, the two sides of the equation remain equal.

$$3x = 15$$

$$4x = -24$$

$$100 = 10x$$

$$40 = -8x$$

$$-20 = 10x$$

Division Equations

You solve division equations by using multiplication.

Multiplication Property of Equality

If each side of an equation is **multiplied by** equal numbers, the two sides of the equation remain equal.

$$\frac{x}{-3} = 2.5$$

$$\frac{c}{4} = -1$$

$$\frac{x}{30} = 2.8$$

$$\frac{y}{42} = 7$$

Solve each equation. Show your work. Box your answers. Show your check step.

1. $\frac{r}{7} = 13$	2. $\frac{n}{6} = 16$	3. $\frac{K}{5} = 49$
4. $\frac{y}{15} = 27$	5. $\frac{s}{16} = 31$	6. $\frac{b}{24} = 18$
7. $\frac{b}{12} = 33$	8. $\frac{f}{29} = 0$	9. $\frac{m}{19} = 17$
10. $t - 49 = 27$	11. $23d = 874$	12. $w + 79 = 93$
13. $\frac{i}{39} = 17$	14. $h + 86 = 111$	15. $a - 67 = 89$
16. $19e = 1064$	17. $\frac{z}{26} = 17$	18. $g + 99 = 132$

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**Check yourself.** Here are the scrambled answers:

0    14    25    33    38    56    76    91    96    156  
245    323    396    405    432    442    496    663