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3-3 Study Guide

Solving Equations by Multiplying or Dividing

Student Edition
Pages 129–133

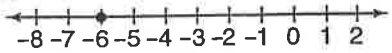
Method: 1. Identify the variable.
2. Multiply or divide each side of the equation by the same nonzero number to get the variable by itself.
3. Check the solution.

Example: Solve $-7x = 42$.

$-7x = 42$

$\frac{-7x}{-7} = \frac{42}{-7}$ **Divide each side by -7.**

$x = -6$ **The solution is -6.**



Check: $-7x = 42$

$-7(-6) \stackrel{?}{=} 42$

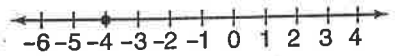
$42 = 42$ ✔

Example: Solve $\frac{y}{2} = -2$.

$\frac{y}{2} = -2$

$\frac{y}{2} \cdot (2) = -2 \cdot (2)$ **Multiply each side by 2.**

$y = -4$ **The solution is -4.**



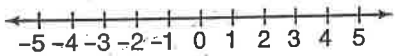
Check: $\frac{y}{2} = -2$

$\frac{-4}{2} \stackrel{?}{=} -2$

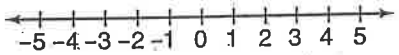
$-2 = -2$ ✔

Solve each equation and check your solution. Then graph the solution on the number line.

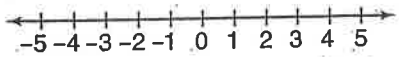
1. $-3a = 15$



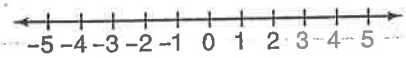
2. $-t = 5$



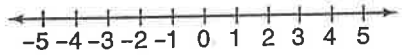
3. $-1 = \frac{n}{4}$



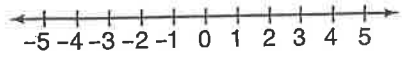
4. $7r = 28$



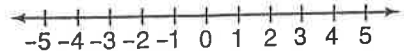
5. $0 = \frac{h}{7}$



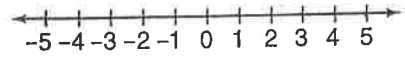
6. $24 = -8m$



7. $-11b = 44$



8. $\frac{a}{-2} = -1$



NAME _____ DATE _____

3-3 Practice

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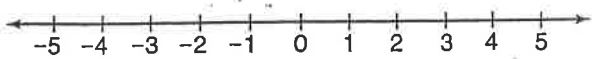
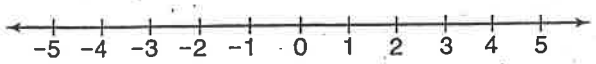
Solve each equation and check your solution. Then graph the solution on the number line.

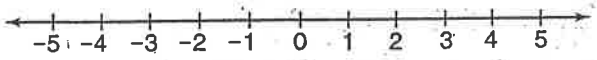
1. $-4 = 4t$



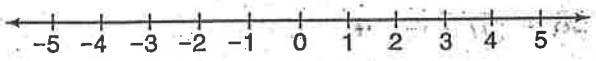
2. $\frac{u}{-4} = 0$



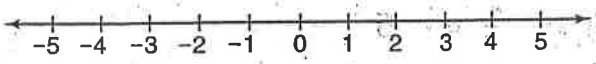
3. $5x = -15$



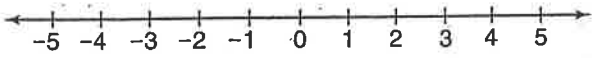
4. $28 = -7f$



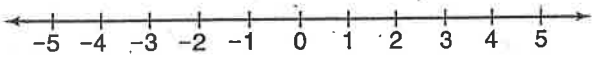
5. $-1 = \frac{n}{-5}$



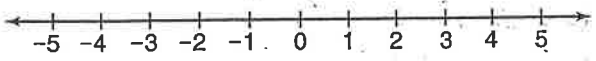
6. $2 = \frac{k}{-2}$



7. $0 = \frac{y}{-36}$



8. $0 = -9r$

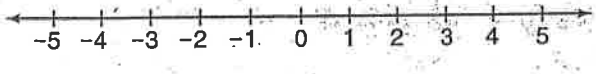


9. $-1 = \frac{m}{-3}$

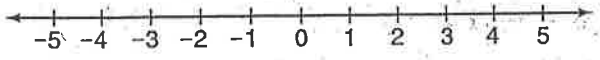
10. $-4x = -12$

11. $\frac{c}{1} = -2$

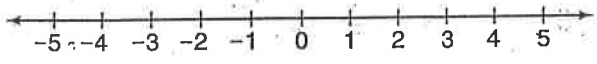
12. $-12p = -48$



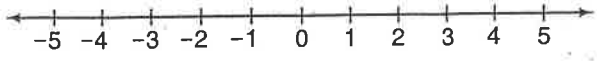
13. $3 = \frac{t}{-1}$



14. $-9r = -27$



15. $35 = 7y$



16. $1 = \frac{n}{1}$