

Do you know HOW?

Evaluate each expression for $x = 5$.

- $\frac{5}{3}(3x - 6) - (6 - 4x)$
- $3(x^2 - 4) + 7(x - 2)$
- $x - 2x + 3x - 4x + 5x$

Simplify each expression.

- $a^2 + a + a^2$
- $2x + 3y - 5x + 2y$
- $5(a - 2b) - 3(a - 2b)$
- $3[2(x - 3) + 2] + 5(x - 3)$

Solve each equation.

- $4y - 6 = 2y + 8$
- $3(2z + 1) = 35$
- $5(3w - 2) - 7 = 23$
- $t - 2(3 - 2t) = 2t + 9$
- $5(s - 12) - 24 = 3(s + 2)$

13. The lateral surface area of a cylinder is given by the formula $S = 2\pi rh$. Solve the equation for r .

14. **Savings** Briana and her sister Molly both want to buy the same model bicycle. Briana needs \$73 more before she can afford the bike. Molly needs \$65 more. If they combine their money, they will have just enough to buy one bicycle that they could share. What is the cost of the bicycle?

15. **Musical** There is only one freshman in the cast of a high school musical. There are 6 sophomores and 11 juniors. One third of the cast are seniors. How many seniors are in the musical?

Determine whether each equation is *always*, *sometimes*, or *never* true.

- $2x + 7 - x = 3 + x + 4$
- $5a - 1 - 3a = 2a + 1$

Solve each equation or inequality. Graph the solution.

- $3x + 17 \geq 5$
- $19. 25 - 2x < 11$
- $20. \frac{3}{8}x < -6$ or $5x > 2$
- $21. 2 < 10 - 4d < 6$
- $22. 4 - x = |2 - 3x|$
- $23. 5|3w + 2| - 3 > 7$

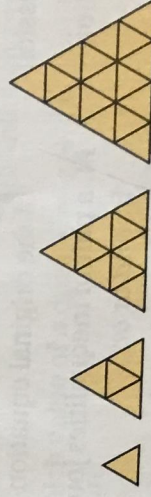
Do you UNDERSTAND?

24. **Writing** Describe the relationships among these sets of numbers: natural numbers, whole numbers, integers, rational numbers, irrational numbers, and real numbers.

25. **Reasoning** Justify each step by identifying the property used.

$$\begin{aligned} t + 5(t + 1) &= t + (5t + 5) \\ &= (t + 5t) + 5 \\ &= (1t + 5t) + 5 \\ &= (1 + 5)t + 5 \\ &= 6t + 5 \end{aligned}$$

26. **Reasoning** The first four figures of a pattern are shown.



Describe the tenth figure in the pattern.