

**Define a variable. Then write and solve an equation to solve each problem.**

18. It costs \$13 for admission to an amusement park, plus \$1.50 for each ride. If you have a total of \$35.50 to spend, what is the greatest number of rides you can go on?

$$13 + 1.50n = 35.50$$

19. Trey went to the batting cages to practice hitting. He rented a helmet for \$4 and paid \$0.75 for each group of 20 pitches. If he spent a total of \$7 at the batting cages, how many groups of pitches did he pay for?

$$.75n + 4 = 7$$

## Extra Practice

Translate each sentence into an equation.

14. Twenty-two less than three times a number is  $-70$ .  $3n - 22 = -70$

Words Twenty-two less than three times a number is  $-70$ .

Variable Let  $n$  represent the number.

Equation  $3n - 22 = -70$

15. The product of a number and 4 increased by 16 is  $-2$ .  $4n + 16 = -2$

16. Twelve less than the one-fifth of a number is  $-7$ .  $\frac{1}{5}n - 12 = -7$

17. Six more than nine times a number is 456.  $6 + 9n = 456$

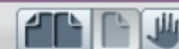
Define a variable. Then write and solve an equation to solve each problem.

18. It costs \$13 for admission to an amusement park, plus \$1.50 for each ride. If you have a total of \$35.50 to spend, what is the greatest number of rides you can go on?  $r = \text{the number of rides}; 13 + 1.50r = 35.50; 15 \text{ rides}$

19. Trey went to the batting cages to practice hitting. He rented a helmet for \$4 and paid \$0.75 for each group of 20 pitches. If he spent a total of \$7 at the batting cages, how many groups of pitches did he pay for?

$x = \text{the number of groups of pitches}; 4 + 0.75x = 7; 4 \text{ groups}$





## Extra Practice

Solve each equation. Check your solution.

14.  $9g - 14 = 2g$

Homework Help →

$$\begin{array}{r} 9g - 14 = 2g \\ -9g \quad \quad = -9g \\ \hline -14 = -7g \\ \quad \quad \quad -7 = -7 \\ \quad \quad \quad 2 = g \end{array}$$

16.  $2.5h - 15 = 4h$  **-10**

18. Will averages 18 points a game and is the all-time scoring leader on his team with 483 points. Tom averages 21 points a game and is currently second on the all-time scorers list with 462 points. If both players continue to play at the same rate, how many more games will it take until Tom and Will have scored the same number of total points?

**7 games**

15.  $-6f + 13 = 2f - 11$  **3**

17.  $2z - 31 = -9z + 24$  **5**

19. Eighteen less than three times a number is twice the number. Define a variable, write an equation, and solve to find the number.

**Let  $n$  = the number;  $3n - 18 = 2n$ ; 18**





## Extra Practice

Solve each equation. Check your solution.

15.  $9(j - 4) = 81$

Homework Help →

$$\begin{array}{r} 9j - 36 = 81 \\ + 36 = + 36 \\ \hline 9j = 117 \\ \frac{9j}{9} = \frac{117}{9} \\ j = 13 \end{array}$$

17.  $\frac{1}{2}r + 2\left(\frac{3}{4}r - 1\right) = \frac{1}{4}r + 6$   $4\frac{4}{7}$

19.  $-7(k + 9) = 9(k - 5) - 14k$   $-9$

21.  $12(x + 3) = 4(2x + 9) + 4x$   
Identity or all numbers

16.  $8(4q - 5) - 7q = 5(5q - 8)$

$$\begin{array}{r} 32q - 40 - 7q = 25q - 40 \\ 25q - 40 = 25q - 40 \\ - 25q = - 25q \\ \hline -40 = -40 \end{array}$$

The solution set is all numbers.

18.  $-5(3m + 6) = -3(4m - 2)$   $-12$

20.  $10p - 2(3p - 6) = 4(3p - 6) - 8p$

null set or no solution

22.  $0.2(x + 50) - 6 = 0.4(3x + 20)$   $-4$

