

Name _____

Date _____ Pd. _____

Notes: Solving Multi-Step Equations

Solve Multi-Step Equations To solve equations with more than one operation, often called **multi-step equations**, undo operations by working backward. Reverse the usual order of operations as you work.

Example**Solve $5x + 3 = 23$.**

$$5x + 3 = 23$$

Original equation.

$$5x + 3 = 23$$

Subtract 3 from each side.

$$5x = 20$$

Simplify.

$$\frac{5x}{5} = \frac{20}{5}$$

Divide each side by 5.

$$x =$$

Simplify.

Example 1

A number is divided by 2, and then 8 is subtracted from the quotient. The result is 16. What is the number?

Example 2

A bacteria culture doubles each half hour. After 3 hours, there are 6400 bacteria. How many bacteria were there to begin with?

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Exit Card: Solving Multi-Step Equations

1. The total bill for repairing Robert's air conditioner was \$250. The repair shop charged \$27 for parts plus \$50 per hour for labor. How many hours of labor did it take to repair Robert's air conditioner? Round the answer to the nearest tenth of an hour.

A. 4.5 hours B. 5.0 hours C. 7.4 hours D. 9.3 hours

2. The sign below is posted at the post office.

FIRST CLASS MAILING COSTS
Up to 1 ounce \$0.37
Each additional ounce \$0.23

How many ounces can you mail for \$2.67?

3. **BCR** Consuela is saving to buy a set of golf clubs. She has \$50 now and can save \$20 each month.
- Write an expression that represents the amount of money that Consuela will have after t months.
 - The price of the clubs is \$270. In how many months will Consuela have enough money to buy the golf clubs? Use mathematics to explain how you determined your answer. Use words, symbols, or both in your explanation.

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Homework: Page 145 – 146 (7 – 9, 16, 26, 34, 48)

7. $4g - 2 = -6$

8. $18 = 5p + 3$

9. $\frac{3}{2}a - 8 = 11$

16. A number is divided by 4, and then the quotient is added to 17. The result is 25. Find the number.

26. $\frac{c}{-3} + 5 = 7$

34. $-3d - 1.2 = 0.9$

48. Adele Jones is on a business trip and plans to rent a subcompact car from Speedy Rent-A-Car. Her company has given her a budget of \$60 per day for car rental. What is the maximum distance Ms. Jones can drive in one day and still stay within her budget?

Speedy Rent-A-Car Subcompact: \$14.95 per day plus \$0.10 per mile