ALBERT

Name _____ Date _____

Two-Step Equations Worksheet

Grade 7 · Common Core 7.EE.B.4a

> Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.

Practice

Builds the skill step by step.

1. Solve: $2x + 5 = 17$

2. Solve: $3x - 4 = 11$

3. Solve: $\frac{x}{4} + 2 = 7$

4. Solve: $5x + 3 = -12$

   A. $x = 3$

   B. $x = -1.8$

   C. $x = -3$

   D. $x = -15$

5. Solve: $4(x + 2) = 28$

6. Solve: $-2x + 7 = 15$

7. Solve: $0.5x - 3 = 4$

8. Which equation matches "Five more than twice a number n is 21"?

   A. $2(n + 5) = 21$

   B. $5n + 2 = 21$

   C. $2n = 21 + 5$

   D. $2n + 5 = 21$

9. Solve: $3(x - 4) = 18$

10. A gym charges $20 to join and $15 per month. Tina has paid $110 in all. How many months has she been a member?

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On Level

Grade-level practice.

1. Solve: $\frac{2}{3}x + 4 = 10$

2. Solve: $-3(x - 5) = 24$

3. Solve: $1.2x + 3.4 = 9.4$

4. A rectangle has a perimeter of 54 cm and a length of 15 cm. Which equation can be used to find the width w?

   A. $15 + w = 54$

   B. $2(15 + w) = 54$

   C. $2w + 15 = 54$

   D. $15w = 54$

5. A rectangle has a perimeter of 54 cm and a length of 15 cm. What is its width?

6. A group buys 6 pizzas and pays a $15 delivery fee. The total is $81. Each pizza costs the same. How much is each pizza?

7. Solve: $\frac{1}{2}(x + 6) = -3$

8. Kara wants to solve $3x + 9 = 30$. Which is a correct first step?

   A. Divide only 30 by 3: $x + 9 = 10$

   B. Subtract 9 from both sides: $3x = 21$

   C. Add 9 to both sides: $3x = 39$

   D. Subtract 3 from both sides: $x + 9 = 27$

9. Ben's age is 4 less than 3 times his sister's age. Ben is 17. How old is his sister?

10. Solve: $-\frac{1}{5}x - 2 = 6$

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Challenge

Multi-step and word problems that stretch it.

1. Solve: $2.5(x - 1.2) = 7$

2. A plumber charges $45 for a visit plus $60 per hour. The bill is $195. How many hours did the plumber work?

3. Solve: $-\frac{3}{4}(x + 8) = 9$

4. Which situation matches the equation $4(x + 3) = 56$?

   A. Four friends buy tickets for x dollars each and share one $3 snack, spending $56 in all.

   B. A ticket costs x dollars, and 4 tickets cost $3 more than $56.

   C. Three friends each spend $4 more than x dollars, for $56 in all.

   D. Four friends each buy a ticket for x dollars and a $3 snack, and spend $56 in all.

5. The sum of three consecutive integers is -45. What is the smallest of the three?

6. A rectangle's length is 3 cm more than twice its width. Its perimeter is 60 cm. Find the width and the length.

7. Ana solved $2(x - 3) = 10$ and got $x = 2$. Find the correct solution and describe her mistake.

8. Which equation has the solution $x = -2$?

   A. $-3x + 4 = 10$

   B. $3x + 4 = 10$

   C. $-3(x + 4) = 10$

   D. $3x - 4 = 10$

9. A movie theater sells popcorn for $6.50 and drinks for $4.25. A family buys 3 drinks and some popcorn, and spends $38.75. How many popcorns did they buy?

10. Solve the equation two ways: $5(x - 2) = 35$. First divide by 5. Then distribute first. What is x?