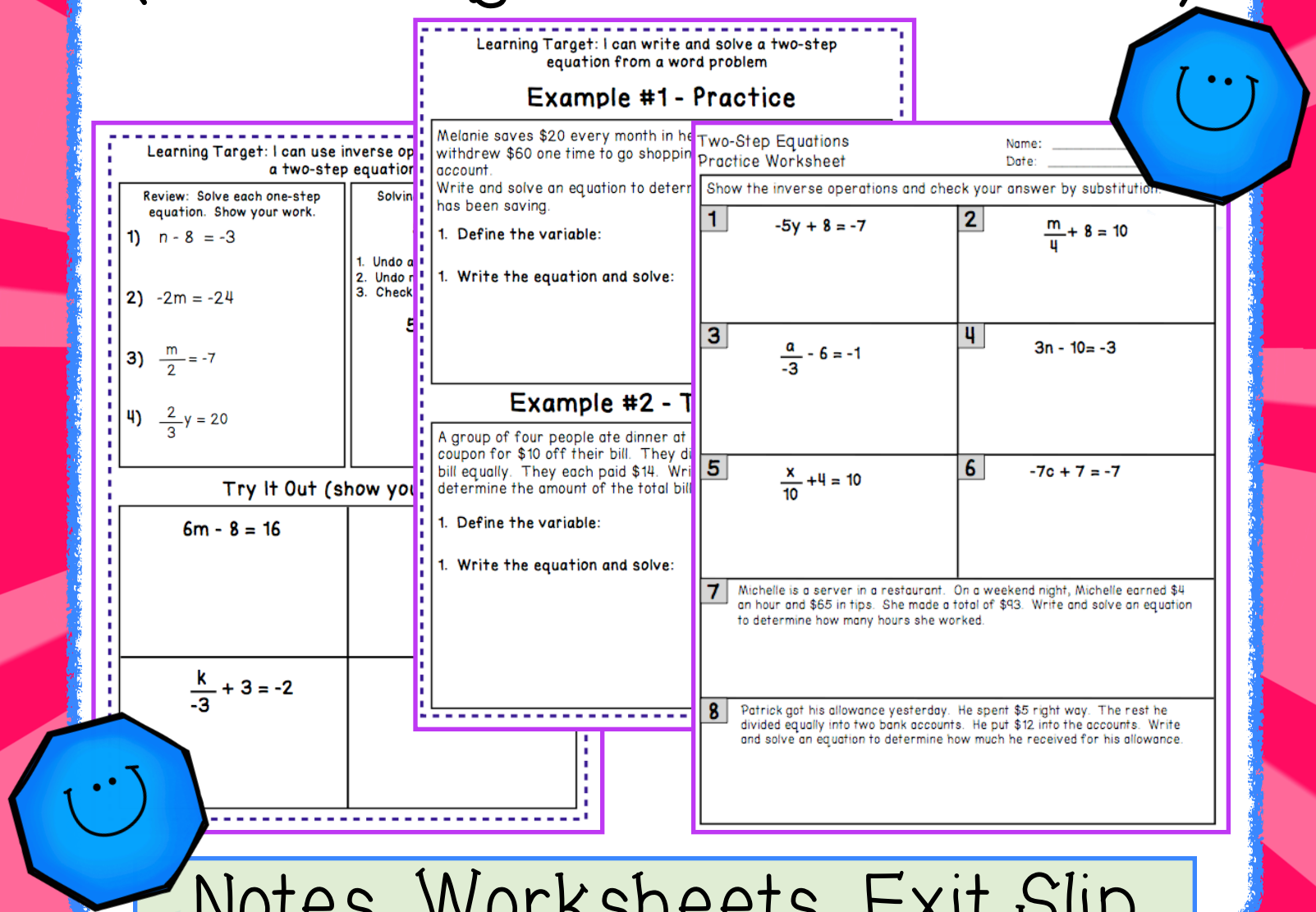
# Two-Step Equations
## (Including Word Problems)




## Notes, Worksheets, Exit Slip

Possible Directions:

First two pages:

1. Copy enough for all students (not back-to-back)
2. Go through the example as a whole class, having students fill out the notes page as you go.
3. With the two practice problems, you can complete it as a whole class or give time to try the two problems independently or with partners.
4. Have students cut both pages out and glue them into their notebooks.

Extra Practice Sheet:

Can be assigned for homework or in-class practice, or given as an

Cut along the dotted lines and glue it into your notebook.

**Learning Target: I can use inverse operations to solve a two-step equation**

Review: Solve each one-step equation. Show your work.

1) $n - 8 = -3$

2) $-2m = -24$

3) $\frac{m}{2} = -7$

4) $\frac{2}{3}y = 20$

Solving a two-step equation

$$5y + 12 = 32$$

1. Undo addition or subtraction
2. Undo multiplication or division
3. Check by substitution

$$5y + 12 = 32$$

## Try It Out (show your work)

| | |
|---|---|
| $6m - 8 = 16$ | $6 - 8x = 22$ |
| $\frac{k}{-3} + 3 = -2$ | $\frac{1}{3}x + 3 = -2$ |

Cut along the dotted lines and glue it into your notebook.

**Learning Target: I can write and solve a two-step equation from a word problem**

# Example #1 - Practice

Melanie saves $20 every month in her savings account. She withdrew $60 one time to go shopping. She now has $280 in her account. Write and solve an equation to determine how many months she has been saving.

1. **Define the variable:**

2. **Write the equation and solve:**

3. **Write your answer in a sentence:**

## Example #2 - Try it Out!

A group of four people ate dinner at a restaurant. They divided the bill equally and each person left a $2 tip. They each paid $14. Write and solve an equation to determine the amount of the total bill.

1. **Define the variable:**

2. **Write the equation and solve:**

3. **Write your answer in a sentence:**

# Two-Step Equations Practice Worksheet

Name: _____

Date: _____

Show the inverse operations and check your answer by substitution.

**1** $-5y + 8 = -7$

**2** $\frac{m}{4} + 8 = 10$

**3** $\frac{a}{-3} - 6 = -1$

**4** $3n - 10 = 5$

**5** $\frac{x}{10} + 4 = 10$

**6** $\frac{1}{3}c - 7 = 1$

**7** Michelle is a server in a restaurant. On a weekend night, Michelle earned $4 an hour and $65 in tips. She made a total of $93. Write and solve an equation to determine how many hours she worked.

**8** On Monday, Ken spent half of his money on a new game. The next day he earned $12 mowing lawns. He now has $32. How much money did Ken have before bought the game?


©2014 Math on the Move

| Two-Step Equations | Name: |
| --- | --- |
| $5y + 15 = 20$ | $6 - 2x = 10$ |
| $\frac{1}{2}x + 10 = 4$ | $\frac{x}{2} + 1 = 7$ |

Angie bought tickets for her and her friends to go to the movies. Tickets cost $8. She also spent $6 on food. She spent a total of $46. Write an equation to determine how many tickets Angie bought. Let *t* represent the number of tickets.

_____ = _____




| Two-Step Equations | Name: |
| --- | --- |
| $5y + 15 = 20$ | $6 - 2x = 10$ |
| $\frac{1}{2}x + 10 = 4$ | $\frac{x}{2} + 1 = 7$ |

Angie bought tickets for her and her friends to go to the movies. Tickets cost $8. She also spent $6 on food. She spent a total of $46. Write an equation to determine how many tickets Angie bought. Let *t* represent the number of tickets.

_____ = _____

©2014 Math on the Move

Cut along the dotted lines and glue it into your notebook.

**Learning Target: I can use inverse operations to solve a two-step equation**

Review: Solve each one-step equation. Show your work.

1) $n - 8 = -3$

$n = 5$

2) $-2m = -24$

$m = 12$

3) $\frac{m}{2} = -7$

$m = -14$

4) $\frac{2}{3}y = 20$

$y = 30$

Solving a two-step equation

$5y + 12 = 32$

1. Undo addition or subtraction
2. Undo multiplication or division
3. Check by substitution

$5y + 12 = 32$

$-12 \quad -12$

$5y = 20$

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

$y = 4$

$5(4) + 12 = 32$ ☺

## Try It Out (show your work)

$6m - 8 = 16$

$m = 4$

$6 - 8x = 22$

$x = -2$

$\frac{k}{-3} + 3 = -2$

$k = 15$

$\frac{1}{3}x + 3 = -2$

$k = -15$

Cut along the dotted lines and glue it into your notebook.

**Learning Target: I can write and solve a two-step equation from a word problem**

# Example #1 - Practice

Melanie saves $20 every month in her savings account. She withdrew $60 one time to go shopping. She now has $280 in her account.
Write and solve an equation to determine how many months she has been saving.

1. **Define the variable:**

   Let m represent the number of months

2. **Write the equation and solve:**

   $20m - 60 = 280$

   $m = 17$

3. **Write your answer in a sentence:**

   She was saving for 17 months

# Example #2 - Try it Out!

A group of four people ate dinner at a restaurant. They divided the remainder of the bill equally and each person left an additional $2 for the tip. They each paid $14. Write and solve an equation to determine the amount of the total bill?

1. **Define the variable:**

   Let b represent the total bill

2. **Write the equation and solve:**

   $b/4 + 2 = 14$

   $b = 48$

3. **Write your answer in a sentence:**

   The bill was $48

# Two-Step Equations Practice Worksheet

Name: _____

Date: _____

Show the inverse operations and check your answer by substitution.

**1** $-5y + 8 = -7$

$y = 3$

**2** $\frac{m}{4} + 8 = 10$

$y = 8$

**3** $\frac{a}{-3} - 6 = -1$

$y = -15$

**4** $3n - 10 = 5$

$y = 5$

**5** $\frac{x}{10} + 4 = 10$

$y = 60$

**6** $\frac{1}{3}c - 7 = 1$

$y = 24$

**7** Michelle is a server in a restaurant. On a weekend night, Michelle earned $4 an hour and $65 in tips. She made a total of $93. Write and solve an equation to determine how many hours she worked.

$4h + 65 = 93$

$h = 7$

Michelle worked 7 hours

**8** Ken spent half of his money. The next day he earned $12. He now has $32. How much money did Ken have before he spent his money?

$m/2 + 12 = 32$

$m = \$40$

Ken had $40 before he spent anything.

| Two-Step Equations | Name: |
|---|---|
| $5y + 15 = 20$<br><br>$y = 1$ | $6 - 2x = 10$<br><br>$x = -2$ |
| $\frac{1}{2}x + 10 = 4$<br><br>$y = -12$ | $\frac{x}{2} + 1 = 7$<br><br>$y = 12$ |

Angie bought tickets for her and her friends to go to the movies. Tickets cost $8. She also spent $6 on food. She spent a total of $46. Write an equation to determine how many tickets Angie bought. Let *t* represent the number of tickets.

$$\frac{8t + 6}{\qquad} = \frac{46}{\qquad}$$

Thank you for downloading this worksheet!

I would love to hear how it went. By providing feedback, you earn credit towards future TpT purchases. ☺

http://www.teacherspayteachers.com/Store/Math-on-the-Move

Credits:

Fonts by LovinLit:
http://www.teacherspayteachers.com/store/Lovin-Lit

Background Paper by A Perfectly Poetic Page:
https://www.teacherspayteachers.com/Store/A-Perfectly-Poetic-Page

Shapes on Cover by Krista Wallden:
https://www.teacherspayteachers.com/Store/Krista-Wallden

Created By
Math on the Move