

2D Writing Story Problems

Name: _____ Per: _____

SHOW YOUR WORK ONLY IN PENCIL. NO WORK NO CREDIT.

Write an equation in Slope-intercept Form for the following situations.



- Grandma gives Brooklyn a piggy bank with \$25 when she was born. Every year, on her birthday, Brooklyn puts a \$20 in her bank.
 - What variables best represent what you need to know (not x and y)? _____
 - Define those variables. _____
 - Write an equation to tell how much money Brooklyn will have in any given year. _____
 - If Brooklyn never used or added more money to the piggy bank, how much money would Brooklyn have in bank on her 15th birthday? _____
- On your trip to Hawaii you need to rent a convertible. There is a charge for each rented car of \$30 for insurance and the daily cost is \$90 every day.
 - What variables represent what you need to know? _____
 - Define those variables: _____
 - Write an equation to show the total cost to rent the convertible. _____
 - If you rented the convertible for 3 days, how much would you need to pay? _____
 - If you were charged \$480, how many days did you rent the car? _____
- Felix is having a birthday party. It costs \$50 to go bowling. He will need shoes at a cost of \$4 for the pairs of rental shoes for each of his friends.
 - What variables represent what you need to know? _____
 - Define those variables: _____
 - Write an equation to show the total cost of his party. _____
 - If the party cost \$82, how many people went bowling? _____
 - If you had 11 friends come, how much would it cost? _____



Write an equation to answer the questions. Try not to use “ x ” and “ y ”.

- Grandpa just celebrated a birthday at Kneaders and ordered a pumpkin pie for \$12.
 - What variable(s) represent what you need to know? _____
 - Define those variable(s): _____
 - Write the equation that shows how old he is if 400 reduced by twice his age is an unknown number?

 - How old will he be if the number is 244? _____
- You played a game of basketball with your friends. You scored a total of 53 points (no three points shots). A basket is good for 2 points and free throw 1 point.
 - Define your variables _____
 - Write an equation. _____
 - If you make 23 baskets (2 points each), how many free throws did you make? _____
- Alex, Bob and Charlie went to Smith’s. Each bought a drink for d dollars and a pack of gum for \$2. All together they spent a total of \$24.
 - Write an equation to represent the situation. _____
 - Solve for d to find the cost of each drink.

Write an equation in **Standard Form** ($Ax + By = C$) for the following situations.

7. You buy 5 hamburgers in a restaurant, and 4 shake. You spend exactly \$36. Let h represent the cost of hamburgers, and s represent the cost of shakes.
- Write an equation to represent the situation. _____
 - If shakes cost \$3.50 each, how much did each hamburger cost. _____
8. A 100-point test has “ t ” true and false questions worth 2 points apiece and “ m ” multiple choice questions worth 4 points apiece.
- What do the variables stand for: t =_____, m =_____
 - Write an equation that describes all possible numbers of questions on the test. _____
 - If you have 24 multiple choice questions, how many true and false questions will there be?_____
9. On Saturday, I went to McDonalds with my friends and spent \$24. It took us 15 minutes to ride our bikes there. We bought three drinks and six burgers.
- Write an equation _____
 - Solve your equation for the cost of each burger.
 - If each drink cost \$1, how much was each burger?_____

Solve for y and simplify for an exact answer

10. $2y^3 + 2 = 18$

12. $3(2 + y^2) - 2 = 40$

13. $-2 + 2(y^2 - 5) = 6 + y^2$

12. $\frac{y+9}{10} = \frac{2}{8}$

13. $\frac{7y-1}{4} = \frac{3}{10}$

14. $\frac{7}{3} = \frac{4}{y-3}$

15. $\left|\frac{y}{7}\right| = 5$

16. $\frac{|-8-8y|}{6} = 5$

17. $|y - 5| = 7$

18. $2 = -4 + \sqrt{a}$

19. $-7\sqrt{2a+9} = -35$

20. $2\sqrt{\frac{h}{4}} = 6$