



## Algebra Worksheet 3

Choice *E*, in multiple-choice questions, is always: *I request help from the teacher.*

You may mark *E* in addition to one other choice if you think that you have the right answer to the question but you do not feel that you have a complete understanding of the problem.

Your teacher will decide whether to use the two-point or four-point scoring rubric for problems that use numbers, pictures, or words to justify/explain your answer(s). You may request help for these questions, too. Write the word “teacher” by your answer(s).

- Which problem situation is represented by the equation  $12 + 3x = 72$ ?
  - Carter had \$72. He paid \$12 for a snow shovel and spent the rest of the money to hire his brothers to shovel snow during three different snow storms ( $x$ ). How much money did Carter have left?
  - Carter had \$12. Then he earned money for each of three jobs shoveling snow. If Carter had a total of \$72 dollars when he finished the jobs, how much did he charge ( $x$ ) to shovel snow?
  - Carter has \$3. He earned \$12 for 72 snow shoveling jobs. If  $x$  equals the cost of the snow shovel, how long did it take for Carter to make up the price of the snow shovel?
  - Carter had \$12. He earned \$72 for 3 snow shoveling jobs. If  $x$  equals the time it took to complete each job, how long did it take Carter to complete all three jobs?
  - Teacher
- Pythagleo rented his neighbor’s old car for several days at a fee of \$20 a day. He also paid \$35 for gasoline. All together he paid out \$115. Write an equation that shows this situation. Use your equation to find the number of days Pythagleo rented the car.
- The mysterious person or persons who created mathematical problems for Chris and Carter to solve in order to learn more about the disappearance of 500 Etna High student and staff created a number pattern for them. The number pattern was 2913, 969, 321 105, 33... Which rule describes how to find the next term in the pattern?
  - Divide the previous number by three and subtract 2.
  - Multiply the previous number by three and add 2.
  - Divide the previous number by three and add 2.
  - Multiply the previous number by three and subtract 2.
  - Teacher
- Which expression is equivalent to  $2x + 18$ ?
  - $18 + x + 2$
  - $18 + x$
  - $18 \div 2 + x$
  - $2(x + 9)$
  - Teacher
- Carter visited the candy dispensers in the shopping mall to get candy for his little brothers. He spent a roll of nickels valued at \$2.00. Which equation represents how many nickels ( $n$ ) Carter spent?
  - $.05 \times n = \$2.00$
  - $.05 \times \$2.00 = n$
  - $.05 \div n = \$2.00$
  - $\$2.00 \times n = .05$
  - Teacher



6. Which equation represents the following sentence?

**Seven times a number minus twelve is forty-four.**

A.  $7n + 12 = 44$   
B.  $44 - 12 = 7n$

C.  $7n = 44 \div 12$   
D.  $7n - 12 = 44$

E. Teacher

7. If the input is 4, what is your output? What rule can help you find the output given the input? Use numbers, pictures, or words to explain your answers.

Input	Output
.02	1.4
.035	2.45
.56	39.2
1.25	87.5
4.0	?

8. Chris bought two packages of computer printing paper with 500 sheets of paper each. At the end of one month of printing on Chris's home computer, there were 214 sheets of paper left. Which equation could be used to find out how many sheets of paper Chris used that month?  $u$  = number of papers used.

A.  $2 \cdot 214 + 500 = u$    B.  $2u - 500 = 214$    C.  $214u = 500 - 2$    D.  $2 \cdot 500 - u = 214$    E. Teacher

9. The Enigma, Ohio Special Olympics Track and Field Team was split into three groups, A, B, and C. All three groups ran laps to practice for the regional track meet. Group A ran twice as many laps as Group B. Group C ran half as many laps as Group B. Altogether Groups A, B, and C ran 28 laps each practice session. Which equation will help you determine the number of laps each team ran?

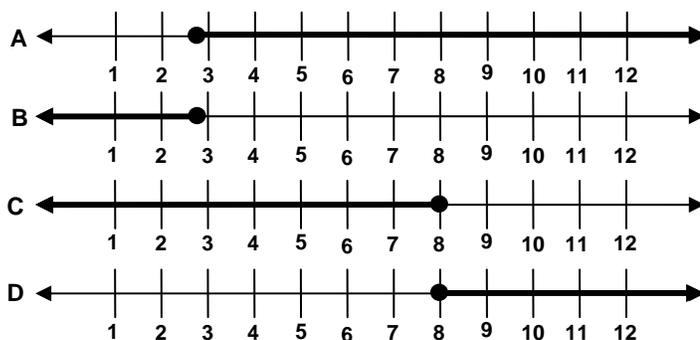
A.  $.5(2B + B) = 28$    C.  $2B + .5B = 28$   
B.  $.5(2B) + B + 2B = 28$    D.  $2B + B + .5B = 28$

E. Teacher

10. The cost of song files downloaded from Chris's favorite Internet site increased by 9 cents a song. Chris downloaded 15 songs at the old price and 30 songs at the new price. Which expression could be used to determine the cost of all the song files Chris downloaded?  $s$  = old song file price.

A.  $s(15 + 30 + .09)$    B.  $15s + 30(s + .09)$    C.  $.09(15 + 30) \div s$    D.  $45s + .09$    E. Teacher

11. Which graph at the right represents values of  $x$  that will make the inequality  $3x \geq 8$  true?



E. Teacher