

The following problems are to help you review for Test 2. Do these problems on your own paper. The answers are posted on my website. <http://spot.pcc.edu/~kkling>

Solve the following equations algebraically. Check your solutions. Write your answers in complete sentences.

1.  $6x - 9 = 21$

2.  $-8 + 3A = 4A - 5 + 2A - 2$

3.  $3y - 7(y + 4) = -y + 6 - 3y$

4.  $\frac{1}{2}(4p - 6) = -3p + 2$

5.  $-(3z + 8) - 9 = 17 + 3z$

6.  $15 - \frac{2b}{3} = \left(-\frac{4b}{6} + 8\right) + 7$

7.  $\frac{3r}{5} - \frac{2}{5} = \frac{r}{3} + \frac{2}{5}$

Solve each inequality. Express the solution in interval notation. Graph the solution set on a number line. If the inequality has no solution or is true for all real numbers, so state.

8.  $-3d < 12$

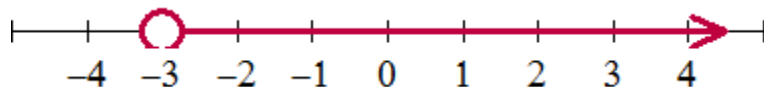
9.  $7x - 4 \geq 3x$

10.  $2m + 8 \leq 4m - 2(m + 5)$

11.  $13 - (2q + 4) < -1 + 3q$

12.  $4 - w + 3(5 + w) < 25$

13. Use interval notation to describe the following graph.



14. Solve  $x + 2y = 6$  for  $y$ .

15. Solve  $A = P + Prt$  for  $t$ .

16. Solve  $A = P + Prt$  for  $P$ .

17. What is 136% of 700?

18. 42 is what percent of 672?

19. Solve the proportion  $\frac{3}{n+3} = \frac{9}{24}$

For the following problems, define your variable (include units), set up an algebraic equation to solve the problem, use algebra to solve the problem, and answer the question in a complete sentence.

20. The sum of a number and 17 is equal to twice the number. Find the number.

21. The sales tax is 6%. If the total cost of the book (including tax) is \$26.50, what is the price of the book before the tax?

22. One cookie jar contains sugar cookies and another jar contains chocolate chip cookies. If there are two dozen more sugar cookies than chocolate chip cookies and 96 cookies in total, how many of each type of cookie are there?

23. A student has made a 79, 56, 91, and 72 on four major exams. Determine the possible scores on the fifth exam that will result in a 75 or higher average.

24. A college student has budgeted \$25 a month for phone service. If the telephone company charges \$18 a month for basic service and \$0.05 a minute for each long distance call, how many minutes can be spent on long distance calls each month?