

1.4, 1.5 & Chapter 2  
MAT 1033C  
(Version 3)  
Practice for the exam  
Larson 4<sup>th</sup> Edition

Name: \_\_\_\_\_  
Date: \_\_\_\_\_  
Section: \_\_\_\_\_

Solve each equation for  $x$

1.  $12x - 14 = 3x + 4 - 6x$

2.  $6(x - 5) = 13 - 4(2 - 3x)$

3.  $4x - 7 + x = 8(2x - 3)$

4.  $\frac{x}{4} + \frac{2-x}{3} = 6$

5.  $\frac{5x}{3} + 3 = \frac{2x}{5} + 5$

6.  $|x - 5| = 8$

Solve each inequality and graph its solution on a number line. In addition, write each answer in interval notation.

7.  $4(x - 5) - 4x > -(x - 7)$

8.  $-2 < 2(x - 8) \leq 4$

9.  $x \geq -5$  and  $x < 2$

10.  $x + 5 \leq 3$  or  $x - 2 \geq 4$

Write each union or intersection of intervals as a single interval

11.  $[-5, 9] \cap [2, 15)$

12.  $(-1, 5) \cup [3, \infty)$

Solve each absolute value inequality. Graph each solution on a number line, and write your answer in interval notation.

13.  $|x - 4| \geq -2$

14.  $|x + 5| < 4$

15.  $|x - 4| > 2$

16.  $|2x + 5| < -6$

17. Let  $A = \{1, 2, 3, 4, 6, 8, 10\}$   
 $B = \{0, 2, 4, 6, 7, 9\}$   
 $C = \{1, 4, 10\}$

(2 points per part)

Find a)  $B \cup C$

b)  $A \cap B$

c)  $(A \cup C) \cap B$

18. The sum of four consecutive odd integers is 376. Find the integers.
19. Two pipes working together can fill a vat in 3 minutes. If one pipe can fill the vat in 8 minutes working alone, how long will it take the other pipe to fill the vat by itself?
20. Almonds worth \$3.95 a pound were mixed with walnuts worth \$4.25 a pound. How many pounds of each were used if there were 15 more pounds of almonds than walnuts and if the value of the mixture was \$239.65?

21. A radiator contains 6 L of a 44% antifreeze mixture. How much pure antifreeze (100%) must be added to make a mixture that is a 52% antifreeze solution?
22.  $\frac{2}{x} + \frac{3}{y} - \frac{5}{w} = 1$  Solve for w
23. The sum of three consecutive odd integers is 135. Find the integers.
24. How many gallons of milk containing 5% butterfat must be mixed with 90 gallons of 1% milk to obtain 2% milk?
25. Norman invested one-half of his inheritance in a CD that had 10% annual yield. He loaned one-quarter of his inheritance to his sister to invest in her business. He received a 12% yield on the money. His income on these investments was \$6400 for the year. How much was his inheritance?