

# East Los Angeles College

Department of Mathematics

Math 125

Practice Test 1

Let  $A = \{0,2,4,6,8,10\}$   $B = \{1,3,5,7,9\}$   $C = \{a,b,c,d,e,f,g\}$   
 $D = \{0,1,2,3,4,5\}$   $E = \{a,e,i,o,u\}$   $F = \{0,5,10,15\}$

Determine the following operations with the indicated sets.

1)  $A \cup C$

2)  $A \cap C$

3)  $B \cup D$

4)  $B \cap D$

5)  $E \cup F$

6)  $E \cap F$

**Solve** and **graph** the following compound inequalities.

7)  $x - 6 \geq -2$  or  $-x + 5 \geq 7$

8)  $x - 6 \geq -2$  and  $-x + 5 \geq 7$

9)  $2x - 8 > -2$  or  $-x + 7 < 11$

10)  $2x \leq -24$  and  $3x - 4 \geq x + 10$

11)  $-x + 5 \leq 2$  or  $5x + 2 \geq 7$

12)  $-x + 5 \leq 2$  and  $5x + 2 \geq 7$

**Solve** the following equations and write your answers in **set notation**.

13)  $|x + 7| = 5$

14)  $2|x| + 5 = 17$

15)  $4|x - 2| - 8 = 12$

16)  $-3|x - 5| = -9$

17)  $|x + 5| - 2 = 6$

18)  $-3|x| - 6 = 12$

**Solve** and **graph** the following Absolute Value Inequalities.

19)  $|x + 5| - 2 \geq 7$

20)  $2|x| + 8 \geq 12$

21)  $|x - 6| + 5 < 11$

22)  $-3|x| > -15$

23)  $-2|x + 4| < 18$

24)  $5|x - 7| > -20$

Write your solutions in **interval notation**.

25) Problem 7

26) Problem 8

27) Problem 9

28) Problem 10

29) Problem 11

30) Problem 12

Evaluate the following radicals.

31)  $\sqrt{49x^8}$

32)  $\sqrt{81x^4y^{12}}$

33)  $\sqrt[3]{-27x^{15}}$

34)  $\sqrt[3]{\frac{64}{x^6y^9}}$

Simplify the following radicals.

35)  $\sqrt{32}$

36)  $\sqrt{45}$

37)  $\sqrt{12x^2y^5}$

38)  $\sqrt{6x^4y^3}$

Your Test 1 will be shorter than this study guide. Please make sure that you create an answer sheet with your own paper like the one I created below. On your test you will fill in the answers on the answer sheet and submit it with your work.

## Answer Sheet

1		18	
2		19	
3		20	
4		21	
5		22	
6		23	
7		24	
8		25	
9		26	
10		27	
11		28	
12		29	
13		30	
14		31	
15		32	
16		33	
17		34	