

# East Los Angeles College

Department of Mathematics

Math 125

Test 1

**You need to show your work for credit. Please create an answer sheet on your own paper to fill in the answers**

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

Determine the following operations with the indicated sets.

1)  $A \cup E$

2)  $A \cap E$

3)  $A \cup C$

4)  $A \cap C$

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

5)  $x - 4 \geq -2$  or  $-x + 3 \geq 7$

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

7)  $2x - 8 > -6$  or  $-x + 7 < 5$

8)  $3x \leq -24$  and  $3x - 5 \geq x + 11$

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

9)  $|x + 7| = 4$

10)  $2|x| + 5 = -13$

11)  $4|x - 2| + 8 = 12$

12)  $-3|x - 4| = -12$

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

13)  $|x + 5| + 5 \geq 7$

14)  $-2|x| + 8 \geq 10$

15)  $-2|x + 4| < -14$

16)  $5|x - 7| > 20$

Write your solutions in **interval notation**.

17) Problem 13

18) Problem 14

19) Problem 15

20) Problem 16

Evaluate the following radicals.

21)  $\sqrt{16x^6}$

22)  $\sqrt{9x^6y^8}$

$$23) \sqrt[3]{-64x^{12}}$$

Simplify the following radicals.

$$25) \sqrt{24}$$

$$27) \sqrt{20x^2y^5}$$

29) What is your name?

$$24) \sqrt[3]{\frac{27}{x^9y^{12}}}$$

$$26) \sqrt{50}$$

$$28) \sqrt{8x^4y^3}$$

## Answer Sheet

1		16	
2		17	
3		18	
4		19	
5		20	
6		21	
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8		23	
9		24	
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