

East Los Angeles College
Department of Mathematics
Math 115
Test 4/Final Exam Study Guide

Solve the following equations for x.

1) $-x + 5 = -10$

2) $2(x - 5) + 8 = 10$

3) $\frac{x}{2} = \frac{3}{8}$

4) $\frac{3}{5}x = -2$

5) $x^2 - 9 = 0$

6) $x^2 - 5x - 24 = 0$

7) $(x + 2)(x - 7) = -18$

8) $3x^2 - 17x + 10 = 0$

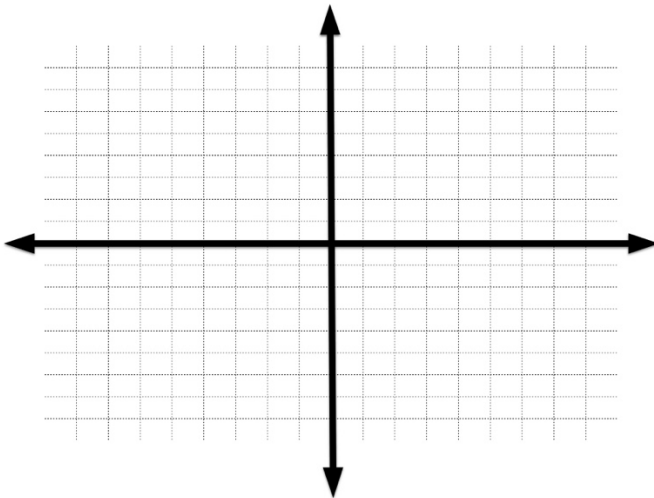
Solve and graph the following inequalities.

9) $2x - 6 \geq x + 14$

10) $-3(x + 2) \geq -12$

Solve the following systems by graphing.

11) $\begin{cases} 3x + y = -1 \\ x + 2y = -2 \end{cases}$



Solve the following system by the addition (elimination) method.

$$12) \begin{cases} x - 2y = 5 \\ 3x + y = 8 \end{cases}$$

Use properties of exponents to simplify the following.

$$13) 4x^2y \cdot 3xy^3$$

$$14) (2x^4)^3$$

$$15) \frac{6x^6}{2x}$$

$$16) 5xy^{-2} \cdot 2x^3y$$

Add and Subtract the following.

$$17) (3x^2 - 3x + 4) + (x^2 - 2x + 5)$$

$$18) (3x^2 - 3x + 4) - (x^2 - 2x + 5)$$

Multiply the following

$$19) 5x(x - 3)$$

$$20) (x + 4)(2x - 3)$$

$$21) (x + 4)(x - 4)$$

$$22) (x - 2)(2x^2 - 3x + 4)$$

Divide the following rationals.

$$23) \frac{12x^4 - 6x}{3x}$$

$$24) \frac{x^2 - 4x + 3}{x + 4}$$

Simplify the following rationals.

$$25) \frac{5x - 10}{x^2 - 4}$$

$$26) \frac{x^2 - 3x - 10}{x^2 + 2x - 35}$$

Multiply/Divide the following rationals.

$$27) \frac{x^2 - 8x + 16}{x^2 - 81} \cdot \frac{x^2 + 9x}{x - 4}$$

$$28) \frac{x^2 - 9}{x^2 + 18x + 81} \div \frac{3x - 9}{x^2 + 19x + 90}$$

Add/Subtract the following rationals.

$$29) \frac{x^2 + x}{x + 2} + \frac{6}{x + 2}$$

$$30) \frac{x^2}{x - 1} - \frac{1}{x - 1}$$

Answer Sheet

1		16	
2		17	
3		18	
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