

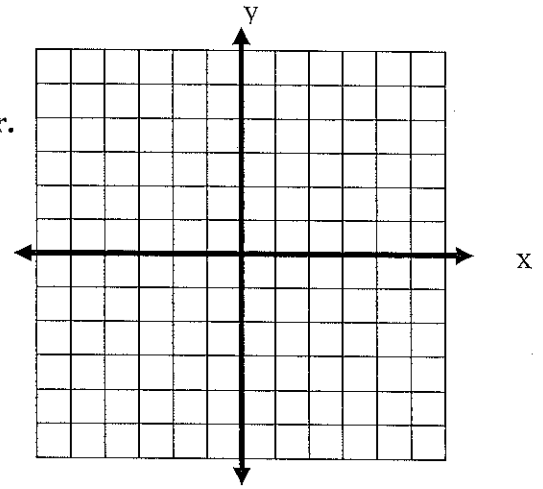
Handwritten signature

1.) Consider the equation of the line $-5x - 4y = 20$:

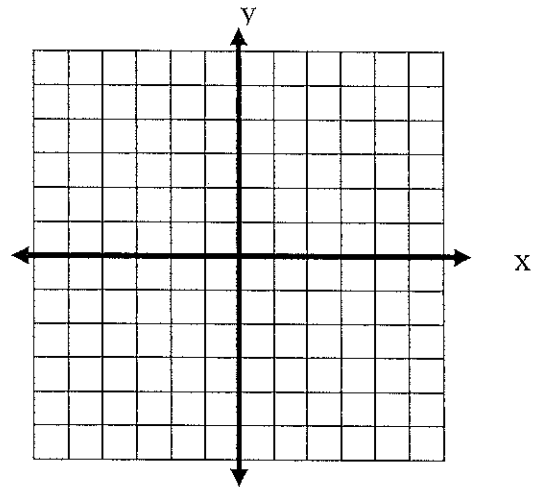
a) Find the slope

b) Find the y -intercept. Write your answer as an ordered pair.

c) Graph the line. Label two points.



2.) Graph: $2x - 3y < 6$



3.) Subtract $(4x^2 - 5x + 10)$ from $(2x^2 - 3x + 5)$

4.) Solve the equation: $.08x + .09(x + 2000) = 690$

5.) Solve each of the following (Do not graph):

a) $3 - 4(x - 2) \leq -5x + 6$

b) $-\frac{x}{4} > 2$

6.) Factor completely:

a) $10y^3 - 130y^2 + 400y$

b) $4x^2 + 4$

7.) For the relation $\{(5, -2), (3, 1), (1, 3), (5, -1)\}$

a) What is the domain?

b) What is the range?

c) Is it a function? Why or why not?

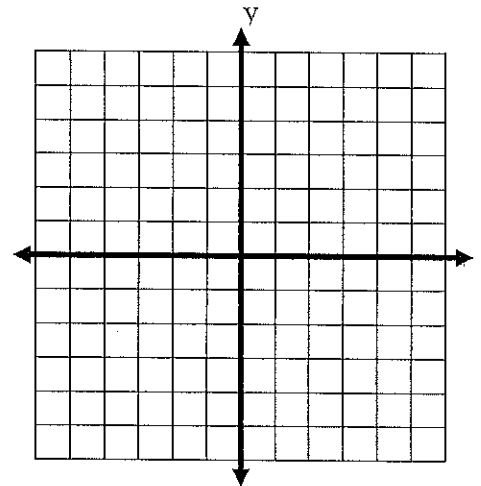
8.) Graph the parabola: $y = -x^2 + 2x + 3$

Clearly state the y-intercept, any x-intercept(s), and the vertex.

x-int:

y-int:

Vertex:



9.) Solve by completing the square: $x^2 + 12x = -11$

10.) 240 is 12% of what number?

11.) Expand and simplify:

a) $(4x - 5)^2$

b) $(x - 2)(x^2 + 2x + 4)$

12.) Admission to a play for 4 adults and 2 children is \$22. Admission to the same play for 2 adults and 3 children is \$16. How much are adult and children's tickets?

13.) Solve for x : $(3x + 6)^2 = 81$

14.) The three sides of a right triangle are consecutive even integers. Find all three sides.

15.) Perform the indicated operations and simplify, if possible.

$$-2\sqrt{45} - 5\sqrt{80} + 2\sqrt{20}$$

16.) Solve the system. If there is no solution or an infinite number of solutions, state this.

$$\begin{cases} -4x + 4y = -8 \\ y = x - 2 \end{cases}$$

17.) Solve for x : $\sqrt{2x+25} = x-5$

18.) Solve for a : $\frac{a+4}{a^2+5a} = \frac{-2}{a^2-25}$

19.) Subtract and simplify: $\frac{6}{x^2-4} - \frac{5}{x^2-x-6}$

20.) Divide and simplify: $\frac{y^2 - 5y}{y^2 + 7y + 12} \div \frac{y^3 - 7y^2 + 10y}{y^2 + 9y + 18}$

21.) Simplify. Write your answers without negative exponents. Assume all variables are positive.

a) $\left(\frac{a^{-5}b}{ab^3}\right)^{-4}$

b) $3x^0 + (2x)^0$

22.) A straight line passes through the points (8, 8) and (6, 2).

a) Find the slope of the line.

b) Find the equation of the line in slope-intercept form.

23.) Perform the indicated operation and simplify, if possible. Be sure to rationalize the denominator if necessary.

a) $(2\sqrt{5} - 4)(\sqrt{5} + 3)$

b) $\sqrt{\frac{32ab^2}{3}}$

24.) Perform the indicated operations and simplify, if possible. Be sure to rationalize the denominator if necessary.

$$\frac{\sqrt{3}}{\sqrt{5} - 2}$$

25.) a) Find the value(s) of x for which the rational expression is undefined: $\frac{x+5}{x^2+2x-15}$

b) Simplify the rational expression completely $\frac{x+5}{x^2+2x-15}$