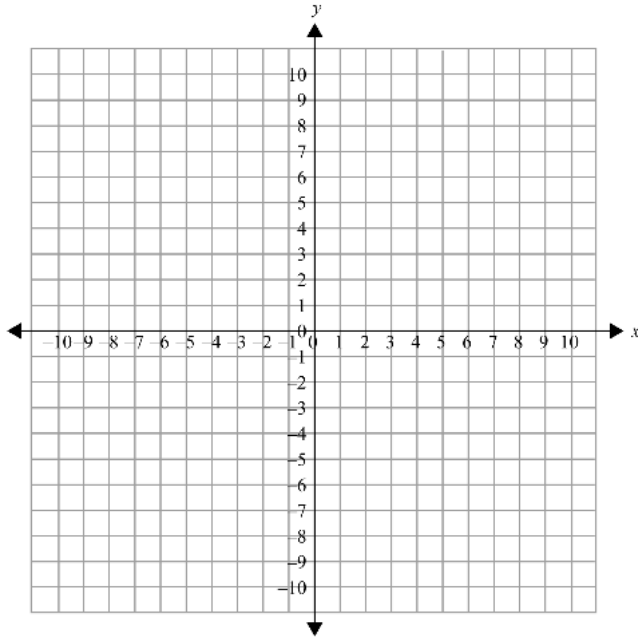


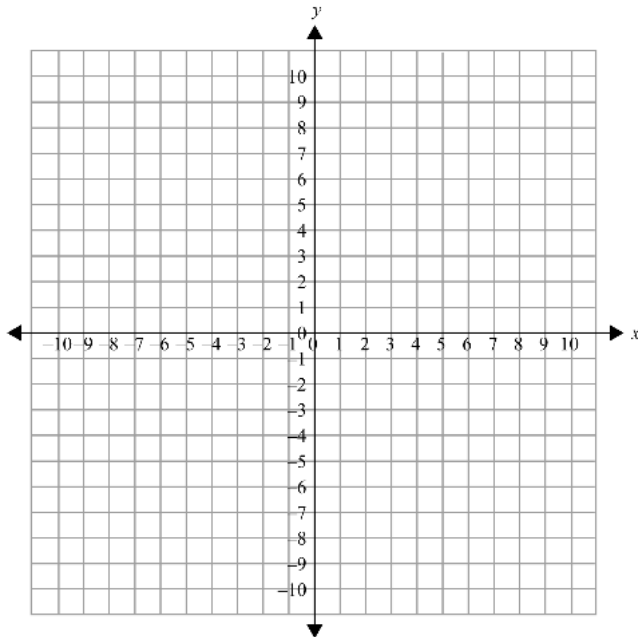
This work NEEDS to be complete prior to the start of the school year. YOU WILL EARN A GRADE FOR THIS ASSIGNMENT!!! If you have trouble remembering everything, visit the website [decamath.weebly.com](http://decamath.weebly.com) for video tutorials.

**Graph Linear Equations**

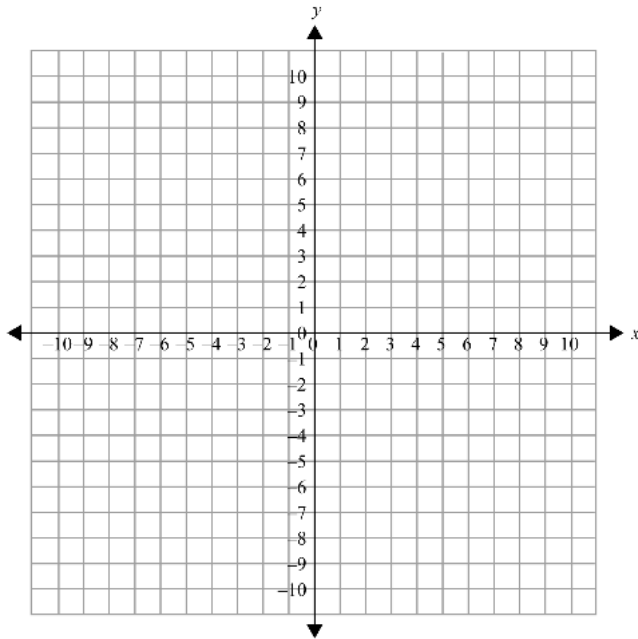
- Graph the linear equation with the following information



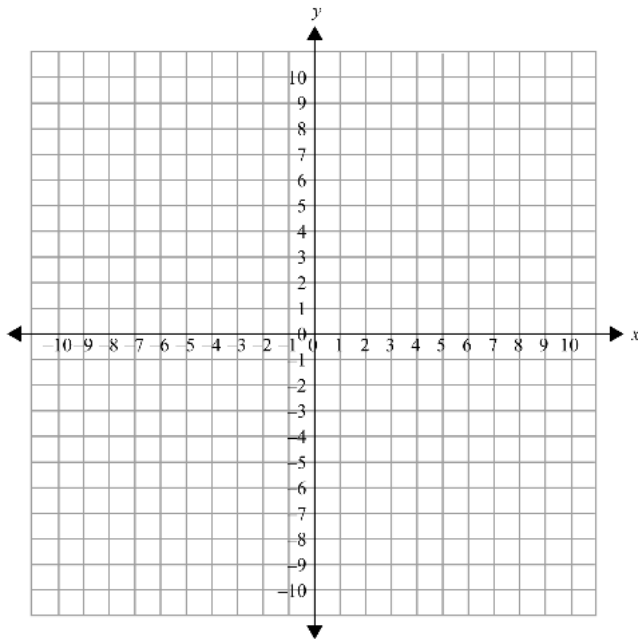
- Passing through the points  $(2, 3)$  and  $(-5, 6)$  – what is the equation?



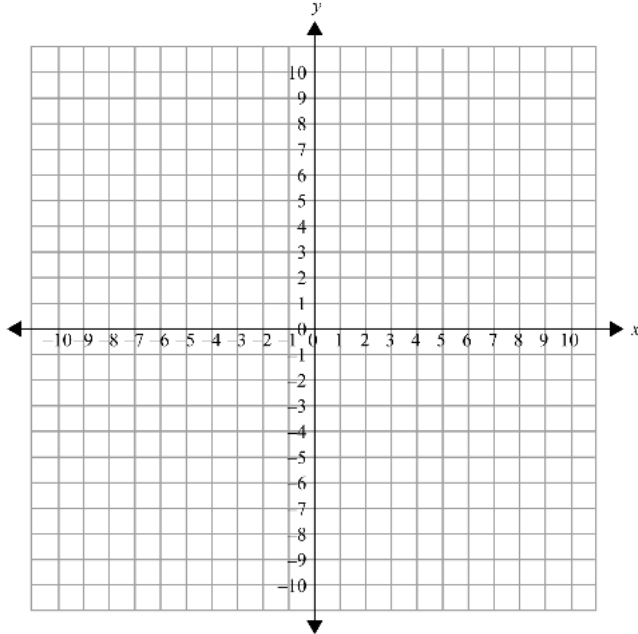
3. Passing through the point  $(-1, -5)$  with a slope of  $-\frac{3}{2}$ .



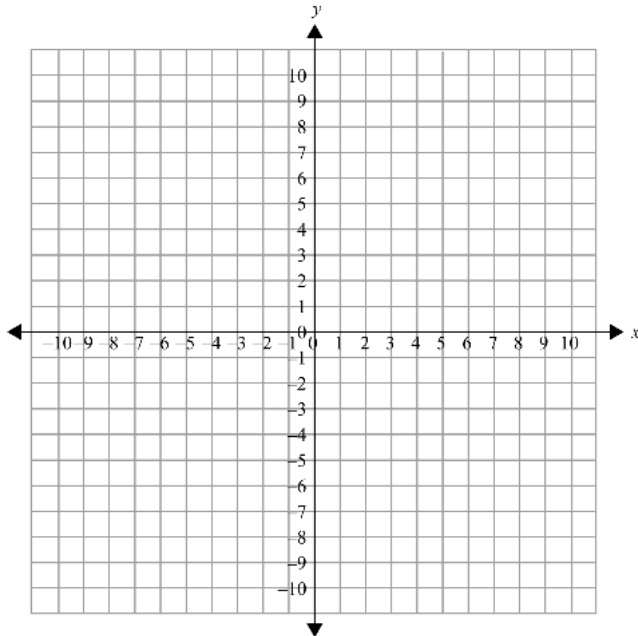
4. With an x-intercept of 3 and a slope of  $-\frac{2}{3}$



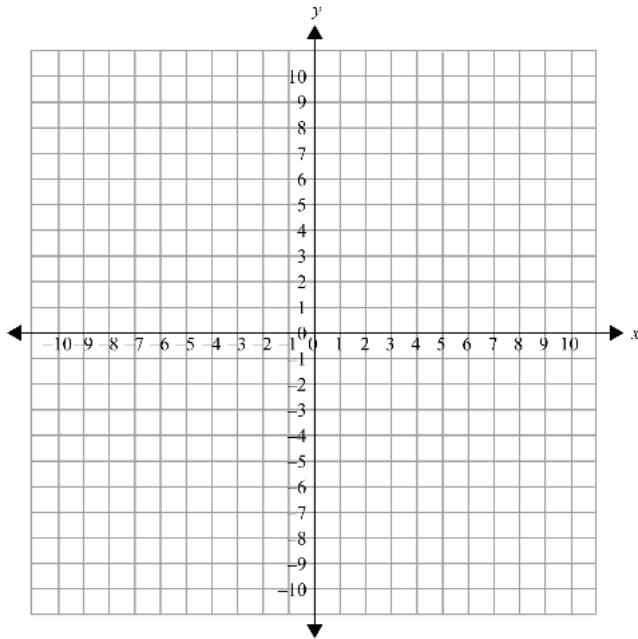
5. From the equation  $3x + 2y = 12$



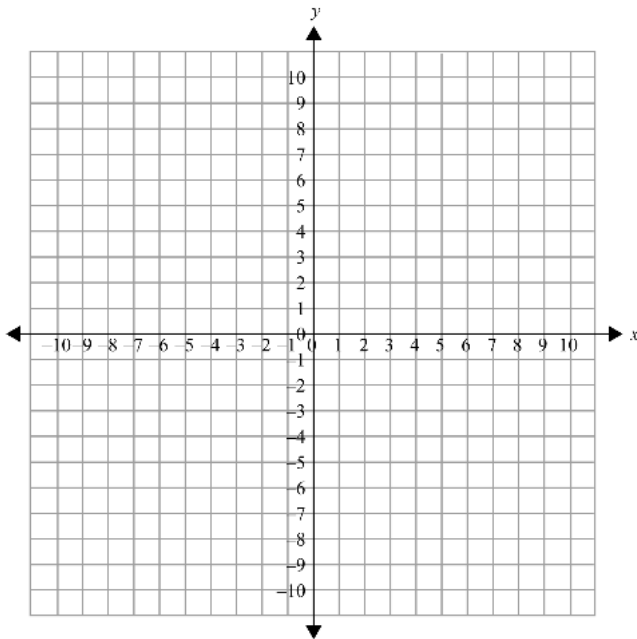
6. From the equation  $y = 4x - 2$



7. From the equation  $y - 7 = \frac{1}{3}(x - 5)$



8. From the equation  $x = 5y + 10$



**Factoring with "A" not equal 0**

Factor the following expressions:

9.  $16m^2 - 25$

13.  $x^2 - x - 20$

10.  $49 - 169a^2$

14.  $2x^2 - 11x + 15$

11.  $4x^2 - 12x + 9$

15.  $6a^2 + 7a - 5$

12.  $16x^2 - 24x + 9$

16.  $2x^2 - 5x - 12$

**Evaluating functions with polynomials**

17. If  $f(x) = 8x^3 - 5x^2 - 4x + 10$ , then  $f(-2) = ?$

18. If  $g(x) = 4x^4 - 7x^2 + 9$ , then  $f(-3) = ?$

For the following problems, use the functions below to evaluate:

$f(x) = 5x^2 - 6x$

$g(x) = 7x^5 - 3x^3 + x - 9$

$h(x) = 7x^6 - 4x^2 + 3$

19.  $2f(-6) - g(-6)$

20.  $h(-2) + 7g(-2)$

21.  $f(-1) - g(-2) + h(-3)$

**Simplifying radicals**

Simplify the following:

22.  $\sqrt{48}$

23.  $5\sqrt{7} \cdot 6\sqrt{2}$

24.  $-8\sqrt{10x} \cdot 3\sqrt{2x}$

25.  $6\sqrt{8y^2} \cdot \sqrt{2y}$

26.  $-5\sqrt{6} (2\sqrt{2} - 4\sqrt{3})$

27.  $(6\sqrt{3} - 2\sqrt{2})(4\sqrt{3} + 5\sqrt{2})$

**Systems of equations**

Solve the system of equations

28. 
$$\begin{cases} 2x + 3y = 7 \\ 3x - y = 5 \end{cases}$$

29. 
$$\begin{cases} 3x - 4y = 4 \\ x + 2y = 8 \end{cases}$$

30. 
$$\begin{cases} 3x + y = 2 \\ x - y = 0 \end{cases}$$

31. A class has a total of 25 students. Twice the number of girls is equal to 3 times the number of boys. How many boy and girls are there in class.