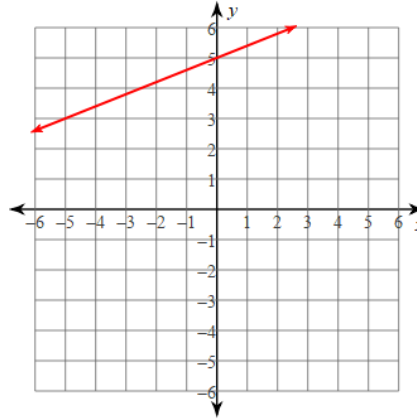


1. Write the equation of the line.



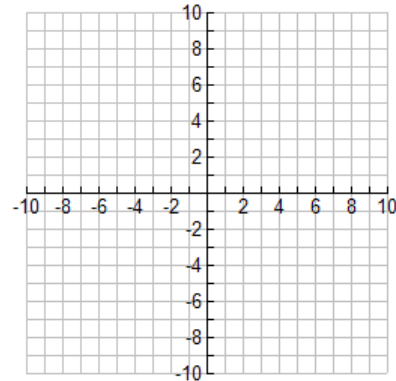
In #s 2 & 3, Write the equation of the line with the given description.

2. Parallel to  $y = \frac{5}{6}x + 7$  passing through  $(4, -3)$

3. Perpendicular to  $3x + 4y = 8$  passing through  $(-3, 5)$

4. Prove that ABCD is a parallelogram.

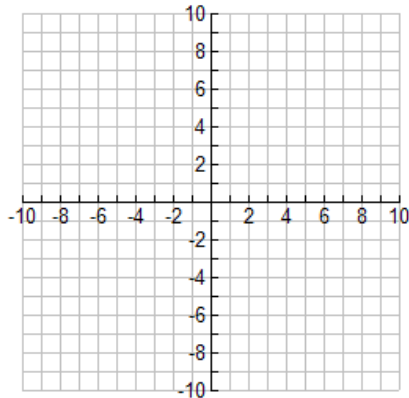
$A(2, -2)$ ,  $B(4, 1)$ ,  $C(0, 2)$ ,  $D(-2, -1)$



5. Determine if  $\triangle UGA$  is scalene, isosceles, or equilateral.

$U(-1, -1)$   $G(0, 3)$   $A(2, 0)$

6. Two corners of an equilateral  $\Delta$  live at  $(0,5)$  and  $(0, -1)$ . What are possible coordinates of the 3<sup>rd</sup> vertex?

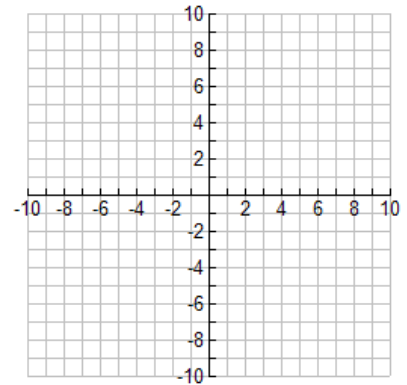


7. What's the perimeter and area of the rectangle PQRS?

$P(0, -6)$   $Q(8, 2)$   $R(4, 6)$   $S(-4, -2)$

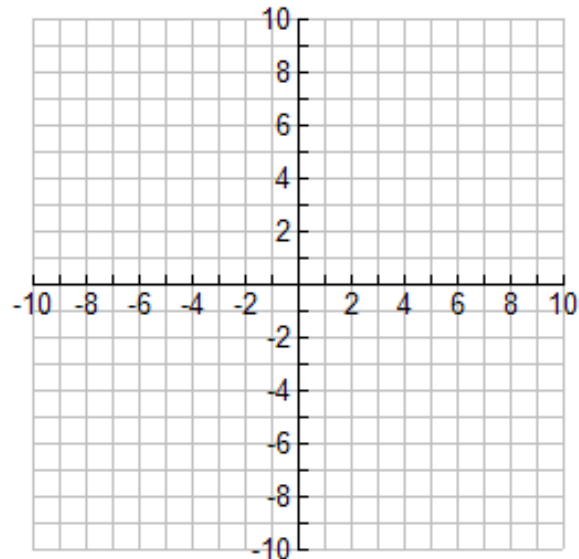
$P \approx$

$A \approx$

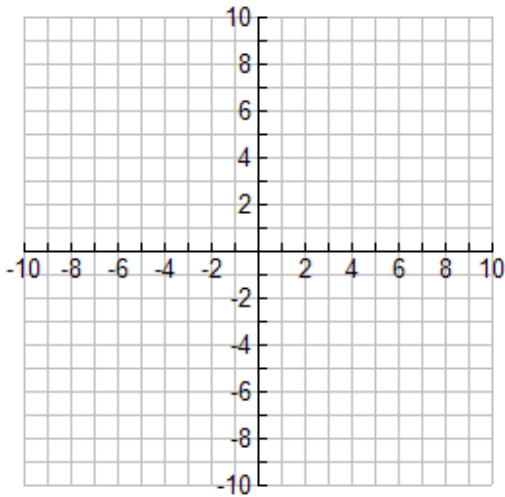


8. Graph  $\Delta ABC$ . Find the midpoints of segments  $AB$  and  $BC$ . Connect those midpoints with the midsegment. Verify that the midsegment is half the length of segment  $AC$  and half as long.

$A(6, -1)$   $B(4, 7)$   $C(-2, -3)$



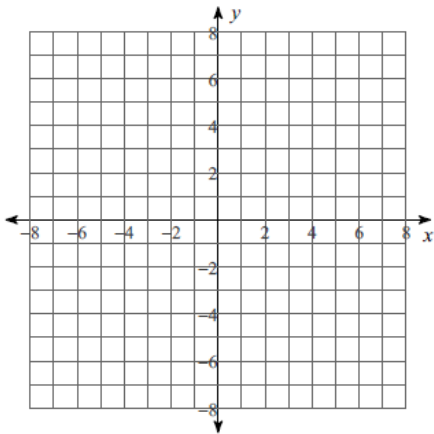
10. NCOB is a parallelogram. Given N(-4, 0), C(3, 7), and O(6, 4), what are the coordinates for B?



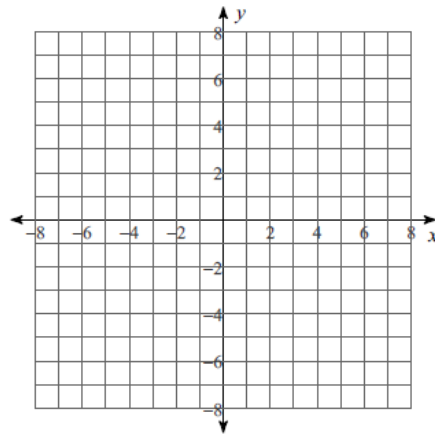
11. Show that NCOB from #10 is a rectangle, rhombus, square, or just a parallelogram.

**Graph each equation.**

10)  $(x - 3)^2 + (y - 2)^2 = 4$



11)  $x^2 + y^2 = 25$



**Identify the center and radius of each.**

12)  $x^2 + y^2 + 28x - 22y + 316 = 0$

13)  $2x^2 + 2y^2 + 46x - 26y + 277 = 0$

14.  $x^2 + y^2 + 23x - 13y + 138 = 0$

15. Write the equation of a circle centered at  $(4, 8)$  that passes through  $(1, 1)$ .

16. Write the equation of a circle with a diameter of 16, and its center at  $(-3, 5)$ .

17. Given the circle  $(x - 4)^2 + (y + 1)^2 = 8$ , determine if the following are inside, on, or outside the circle.

$(2, 1)$

$(5, 2)$

$(2, -3)$

18. The endpoints of a diameter of a circle are at  $(-3, 5)$  &  $(5, 7)$ . Write the equation of the circle.