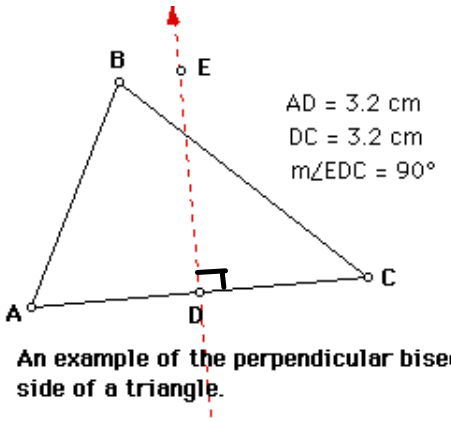
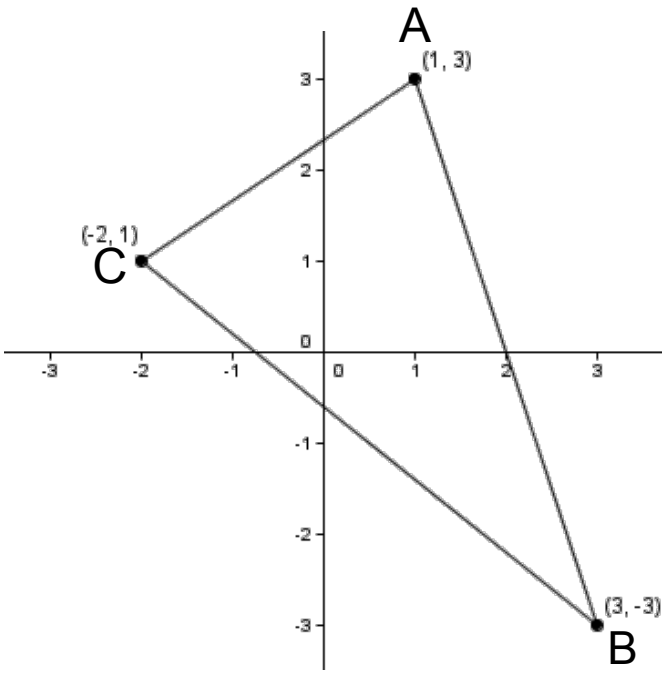
Determining the Equation of a Perpendicular Bisector of a Side

The definition of the perpendicular bisector of a side of a triangle is a line segment that is both perpendicular to a side of a triangle and passes through its midpoint.

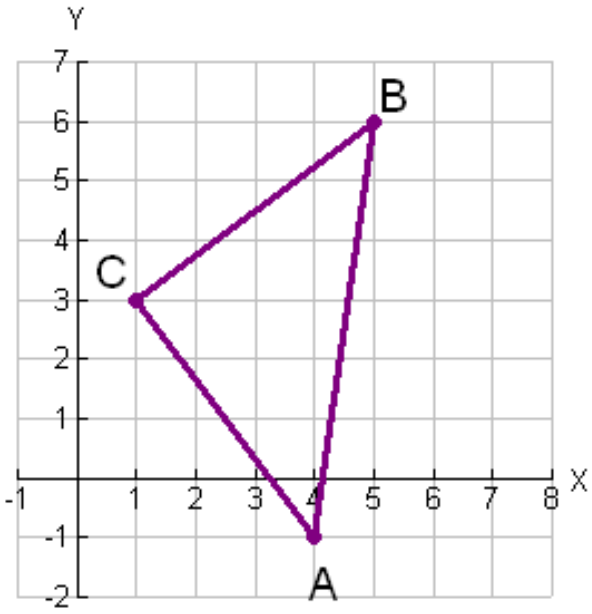


An example of the perpendicular bisector of a side of a triangle.

1. Determine the equation of the perpendicular bisector of side BC.

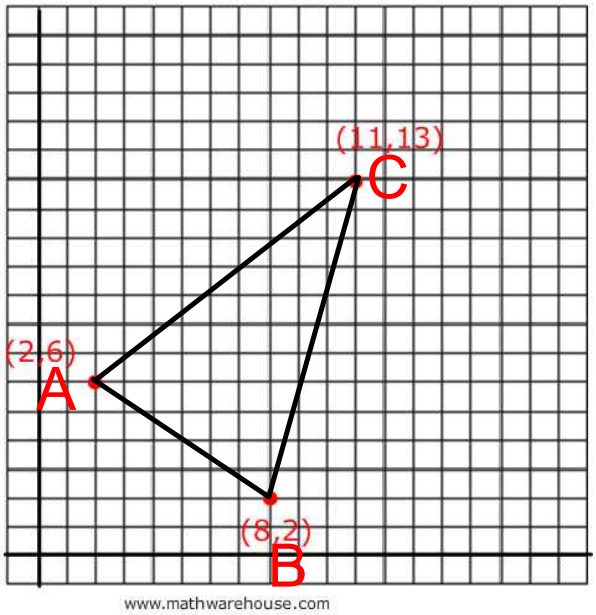


2. Find the equation of the perpendicular bisector of side AB.



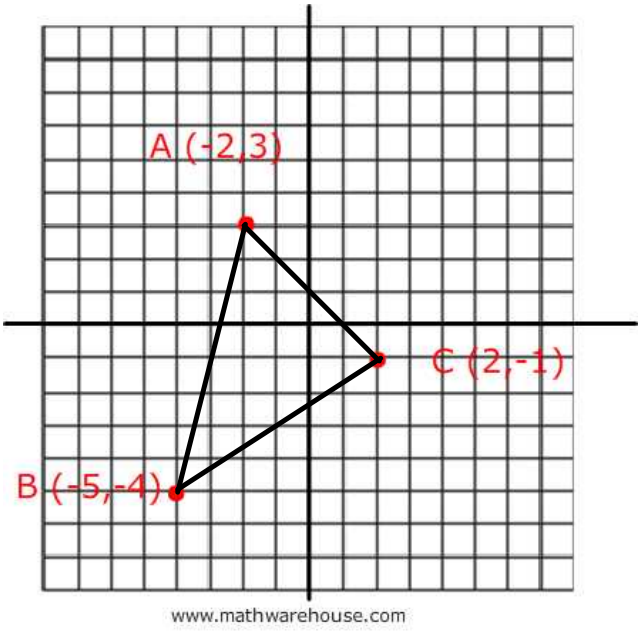
Ans: _____

3. Find the equation of the perpendicular bisector of side BC.



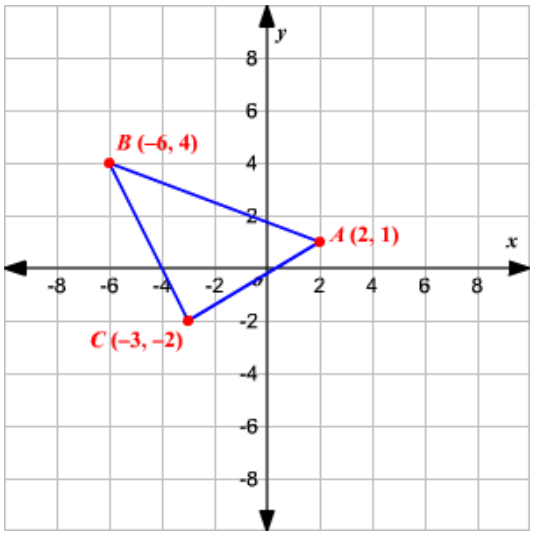
Ans: _____

4. Find the equation of the perpendicular bisector of side AC.



Ans: _____

5. Find the equation of the perpendicular bisector of side AC.

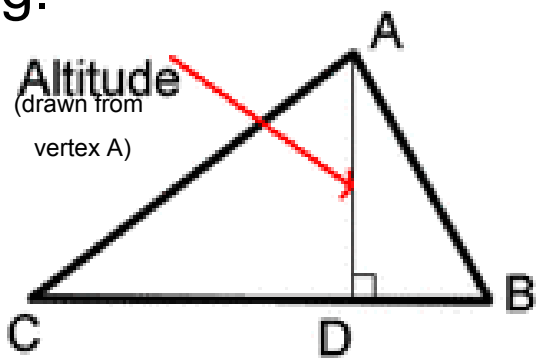


Ans: _____

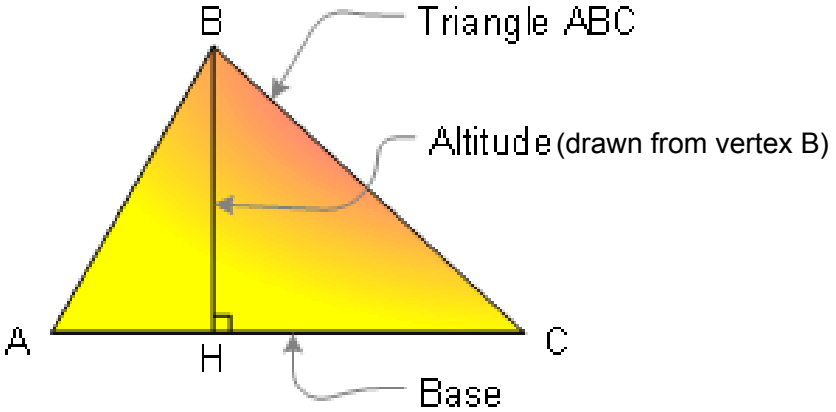
Determining the Equation of an Altitude (which is drawn from a specified vertex)

Definition: When altitude is used in math, it's generally referring to the altitude of a polygon. For instance, in the altitude of a triangle, the altitude refers to the perpendicular distance from the vertex to the opposide. In the image, note that the altitude is AD. AD is the altitude from A to BC.

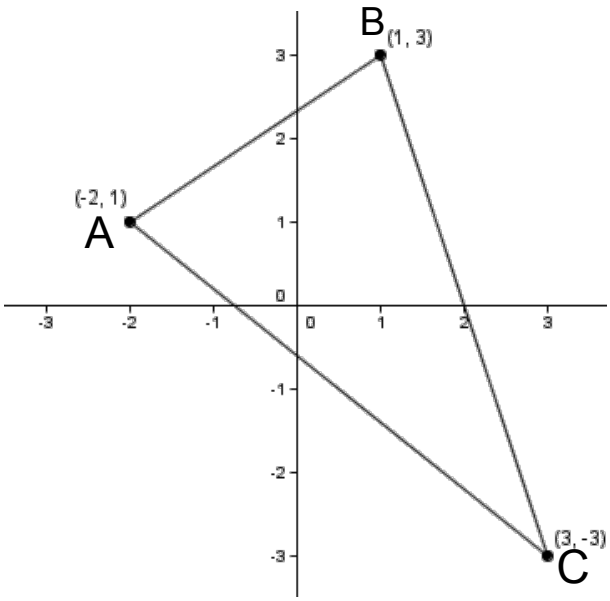
e.g.



e.g.

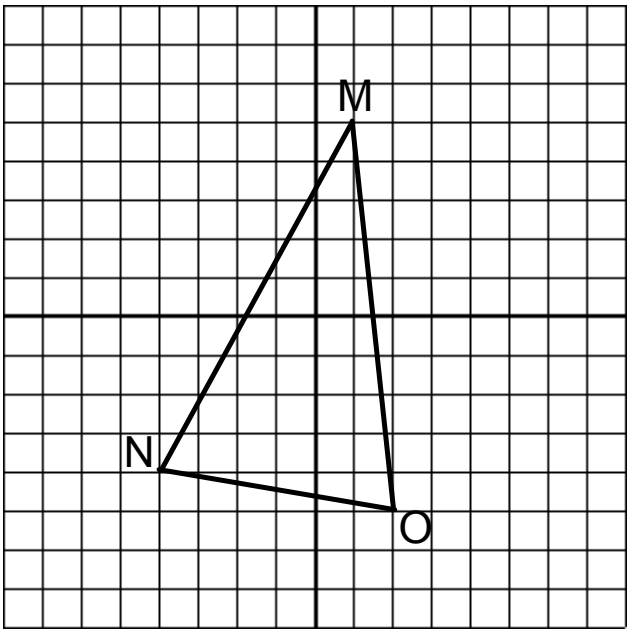


1. Find the equation of the altitude drawn from vertex B.



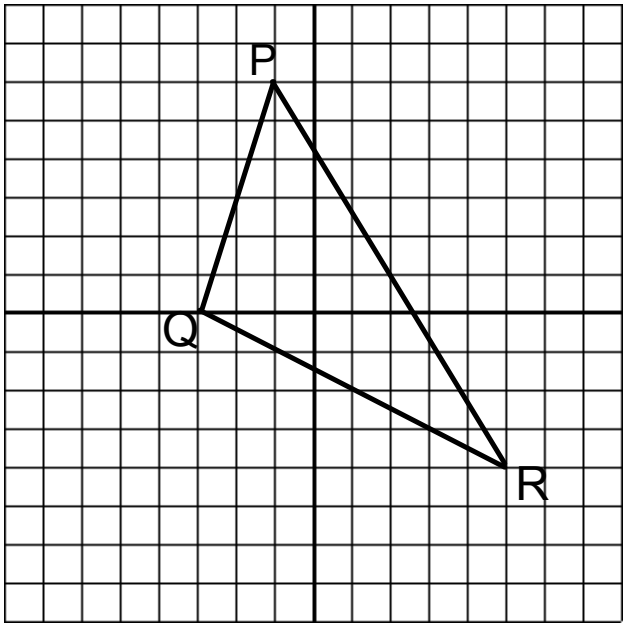
Ans: _____

2. Find the equation of the altitude drawn from vertex M.



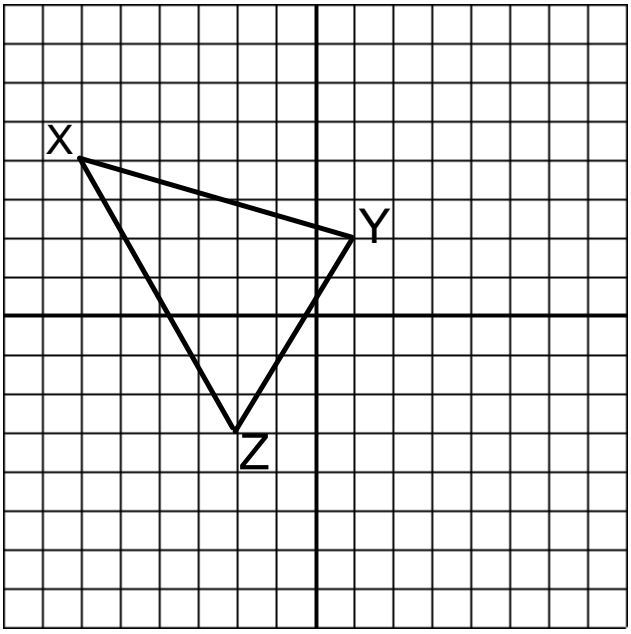
Ans: _____

3. Find the equation of the altitude drawn from vertex Q.



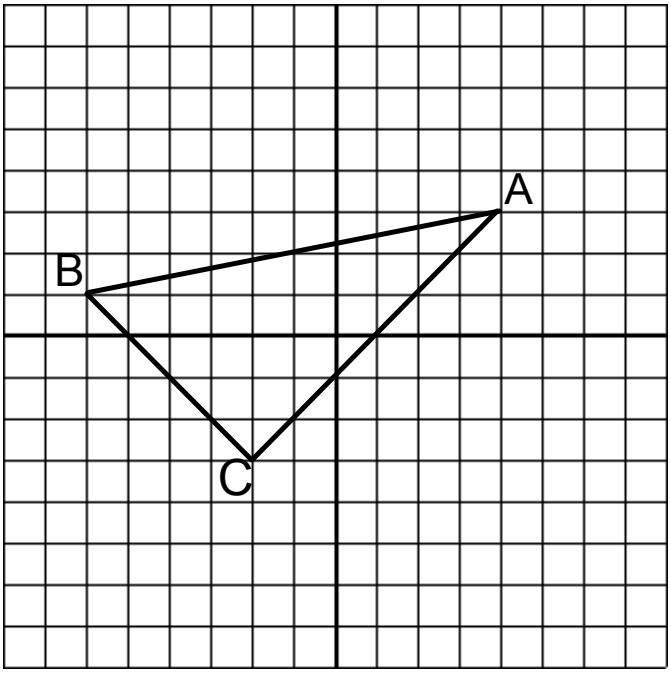
Ans: _____

4. Find the equation of the altitude drawn from vertex X.



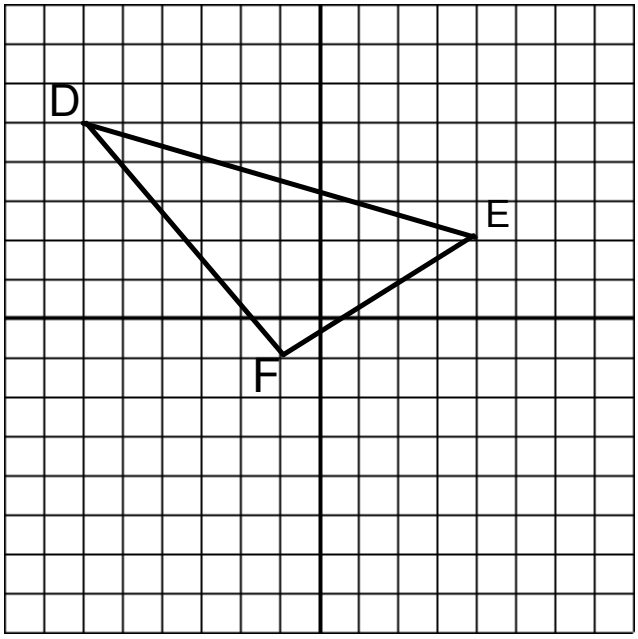
Ans: _____

5. Find the equation of the altitude drawn from vertex C.



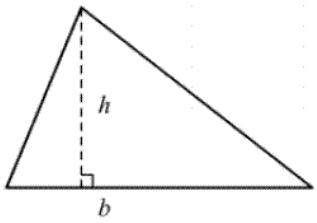
Ans: _____

6. Determine the equation of the altitude drawn from vertex F.
   Clearly show all your work.



Ans: _____

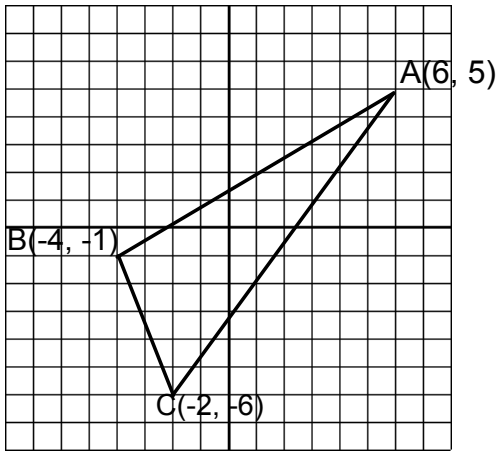
Determining the Area of a Triangle



$$A = \frac{b \cdot h}{2}$$

1. Determine the area of the following triangle:

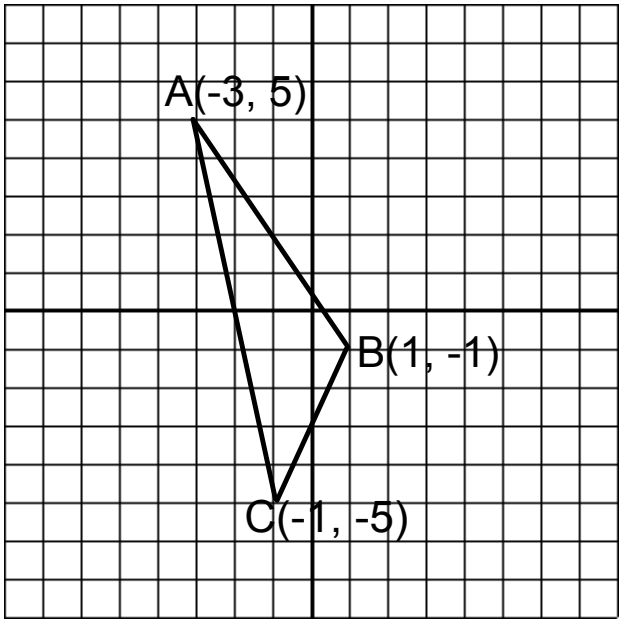
   Round your answer to the nearest unit.



Ans: _____

2. Determine the area of the following triangle:

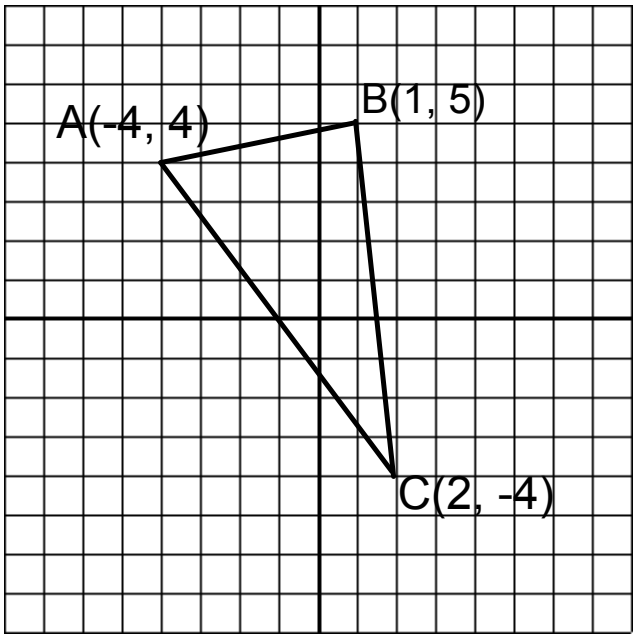
   Round your answer to the nearest unit.



Ans: _____

3. Determine the area of the following triangle:

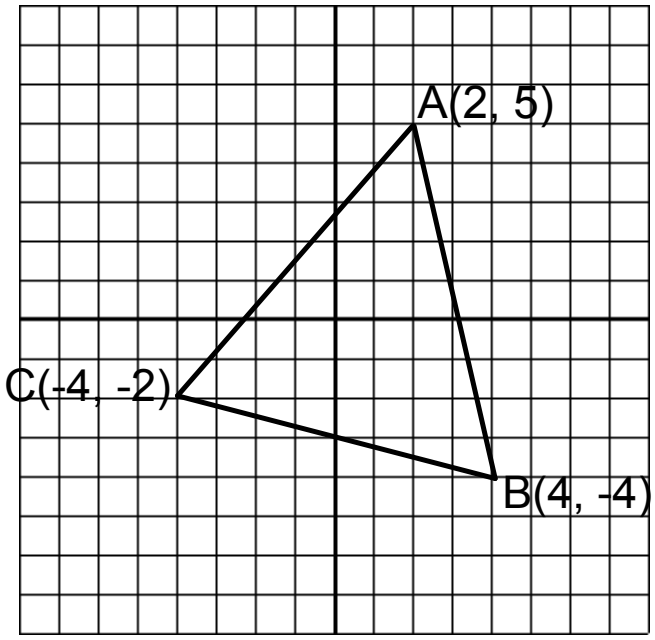
   Round your answer to the nearest unit.



Ans: _____

4. Calculate the area of the following triangle.

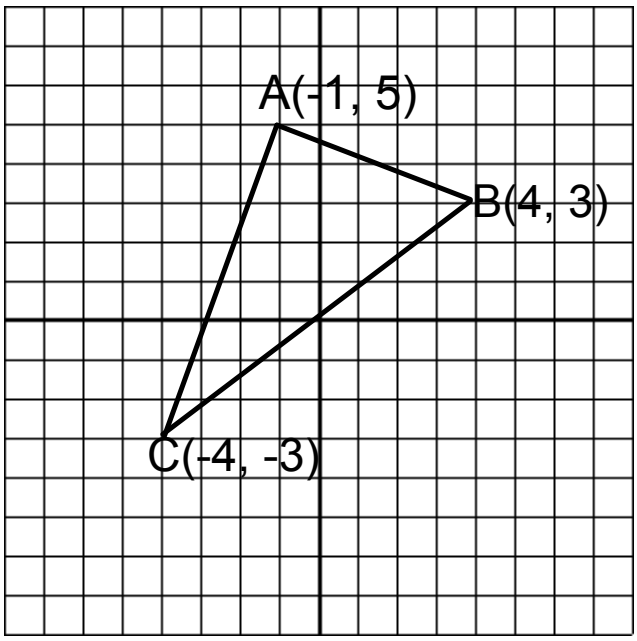
Round your answer to the nearest unit.



Ans: _____

5. Calculate the area of the following triangle.

   Round your answer to the nearest unit.



Answers to Finding the Equation of a Perpendicular Bisector

1) y = 5/4x -13/8

2) y = -1/7x + 22/7 or y = -1/7x + 3.14

3) y = -3/11x + 10.09

4) y = x + 1

5) y = -5/3x - 4/3

Answers to Finding the Equation of an Altitude

1) y = 5/4x + 7/4

2) y = 6x - 1

3) y = 3/5x + 9/5 or y = 0.6x + 1.8

4) y = -3/5x + 2/5 or y = -0.6x + 0.4

5) y = -5x - 13

6) y = 10/3x + 2 1/3 or y = 3 1/3 x + 2 1/3

Answers to Finding the Area of a Triangle:

1) 31 units squared

2) 14 units squared

3) 23 units squared

4) 34 units squared

5) 23 units squared