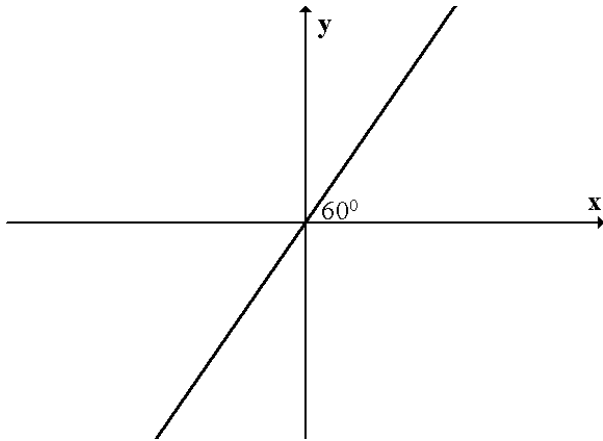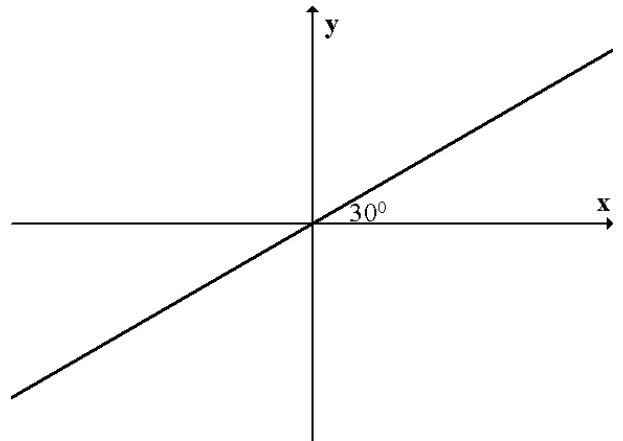# Angles

1. Calculate the gradient of each line below.
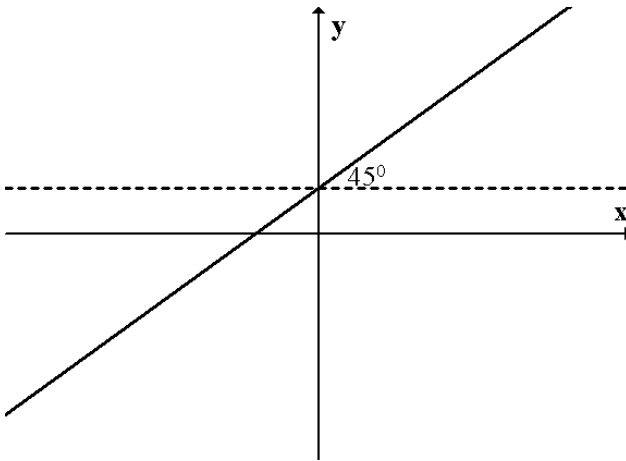
(a)
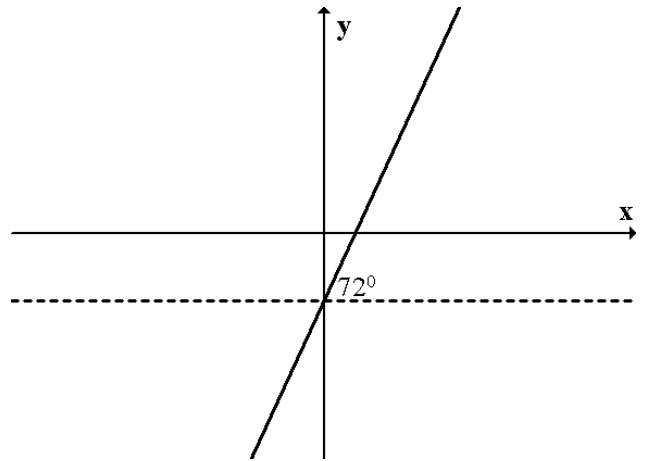

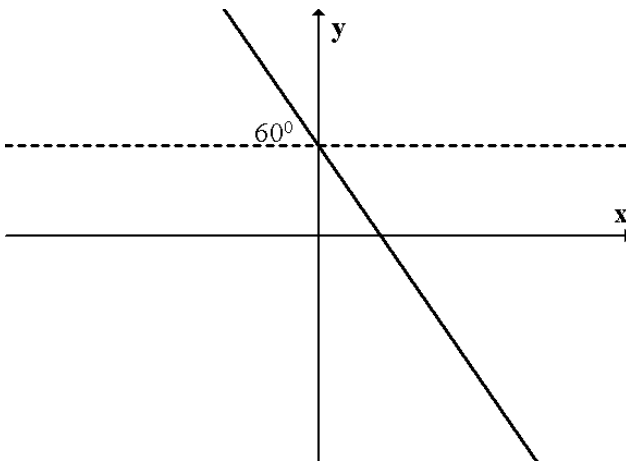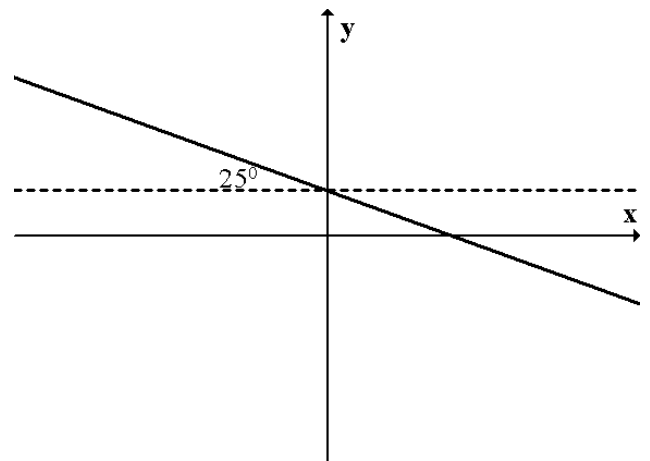60^0

(b)

30^0

(c)

45^0

(d)

72^0

(e)

60^0

(f)

25^0
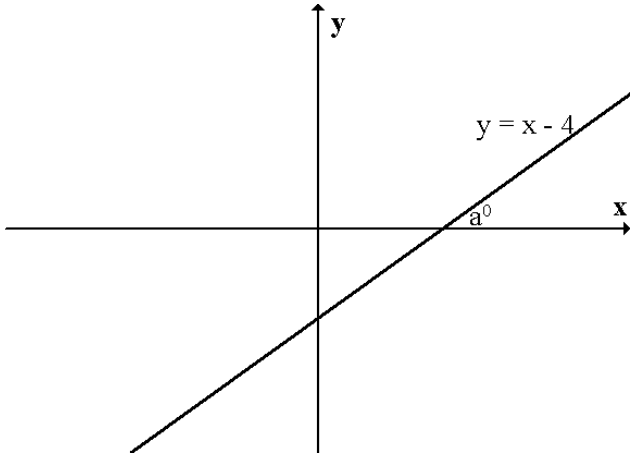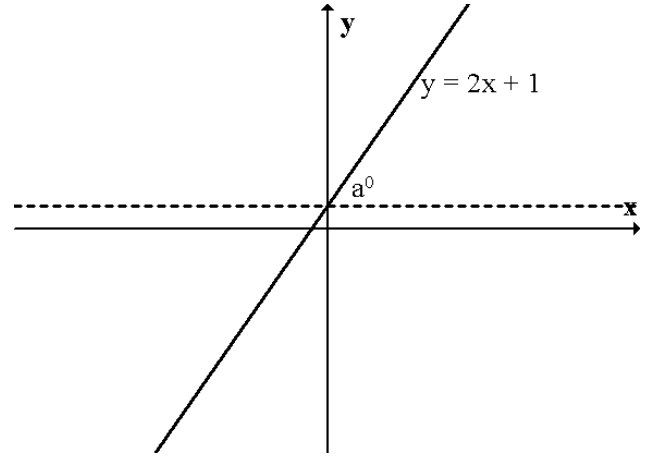
2. Calculate the size of angle a^0 in each of the following.

(a)

$y = x - 4$

(b)

$y = 2x + 1$

(c)

$3y = 4x - 8$

(d)

$3x + 5y + 10 = 0$

(e)

$2y + 3x = 5$

(f)

$\sqrt{3}y = 3x + 4\sqrt{3}$
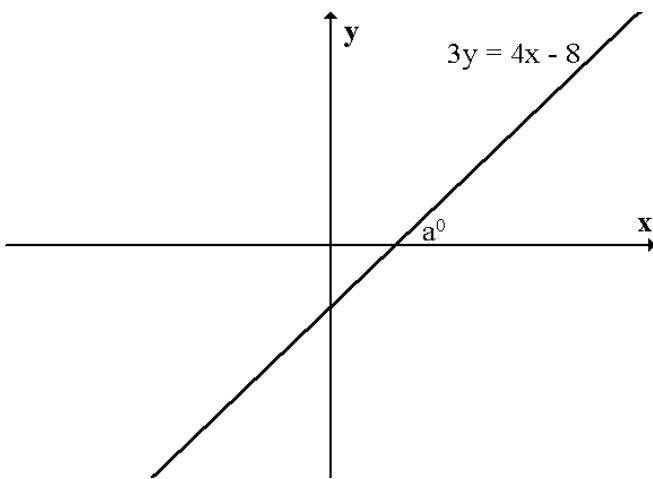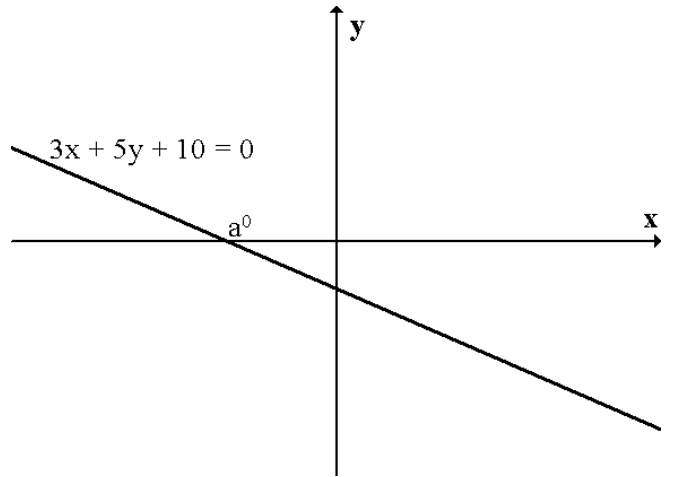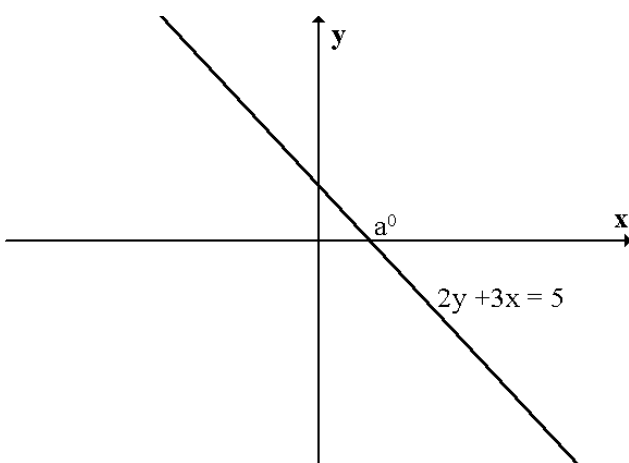
3. Find the size of angle a^0 that the line joining the points A(0,-2) and B(4 $\sqrt{3}$,2) makes with the positive direction of the x-axis.

4. A is the point (-2, 5$\sqrt{3}$) and B is (1, 2$\sqrt{3}$). Calculate the size of angle a^0.

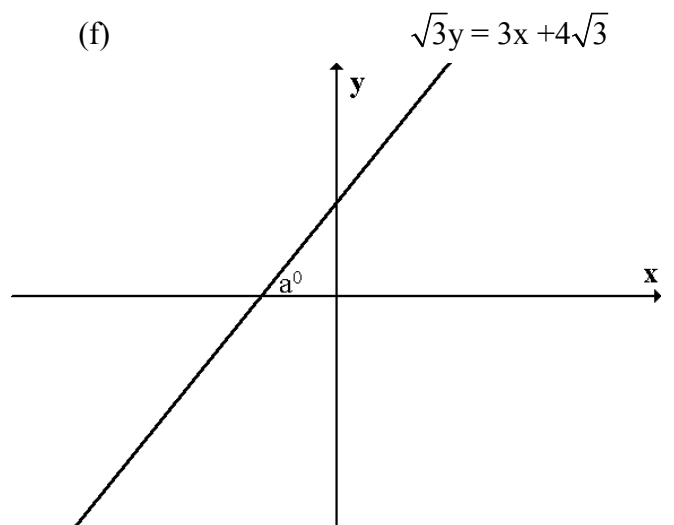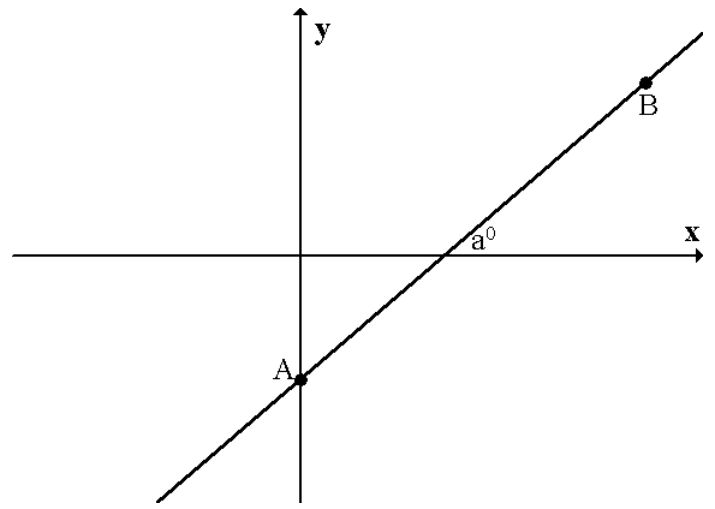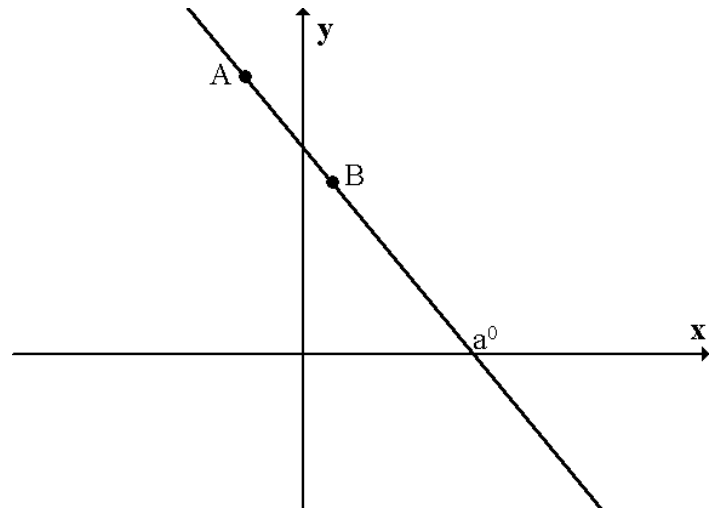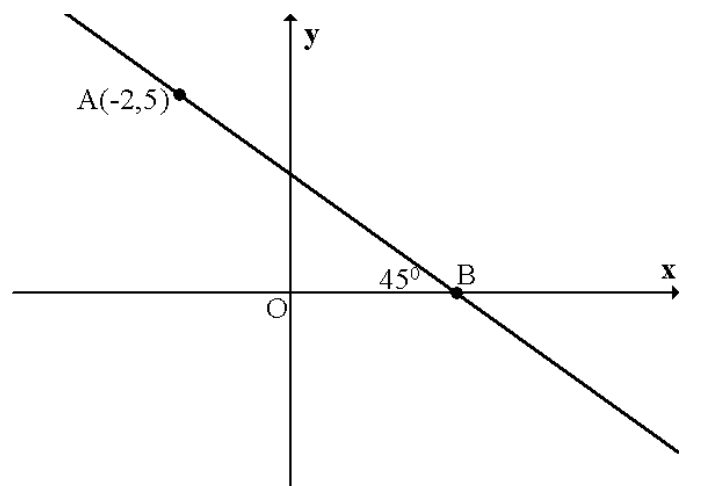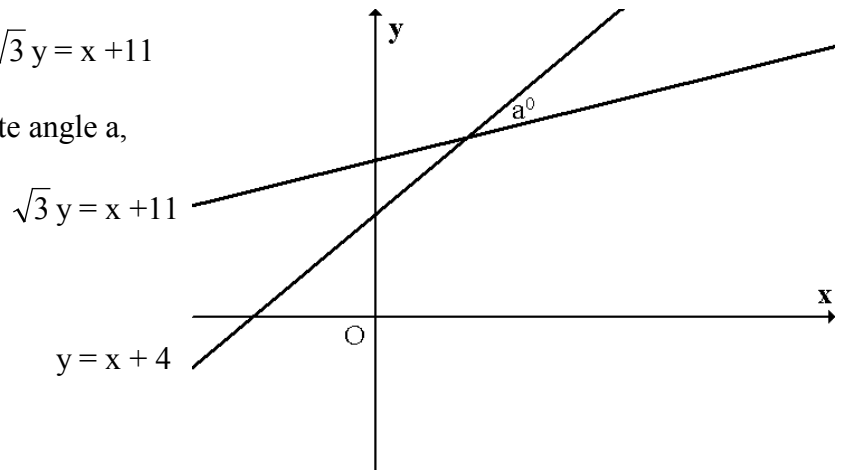5. Find the equation of the line PQ where P is the point (-3,0) and angle QPO is 60^0.
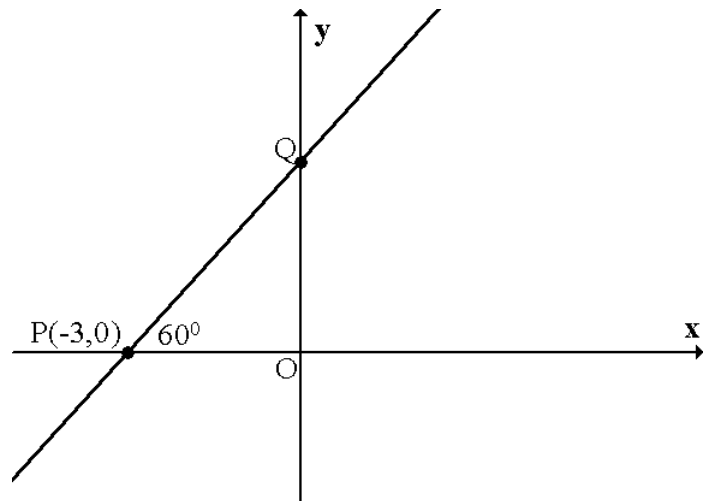
6. Find the equation of the line AB where A is the point (-2,5) and angle OBA is 45^0.

7. The two lines $y = x + 4$ and $\sqrt{3}\,y = x + 11$
   are shown in the diagram.
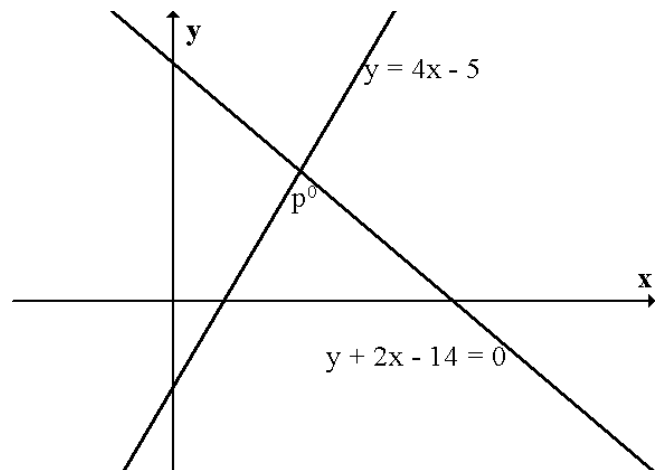   Determine the size of the acute angle a,
   between these two lines.

   $\sqrt{3}\,y = x + 11$

   $y = x + 4$

8. The lines $y = 3x + 6$ and $x + y = 10$
   makes angles p^0 and q^0 with the
   positive direction of the x-axis,
   as shown.

   Determine the size of the acute angle
   between the two given lines.

   $y = 3x + 6$

   $x + y = 10$
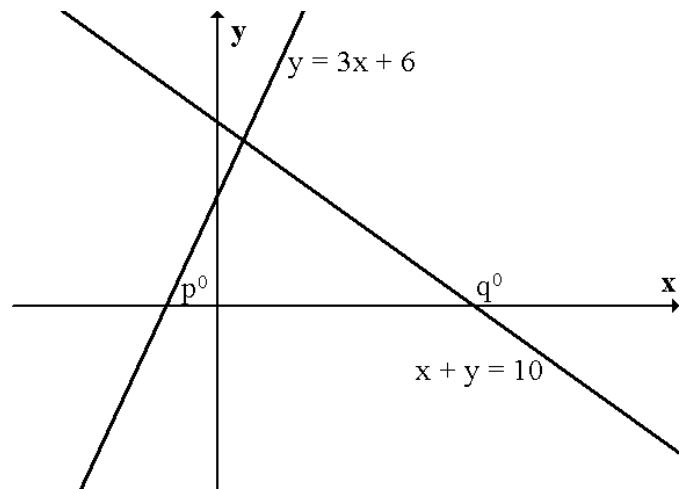
9. The diagram opposite shows the lines
   $y = 4x - 5$ and $y + 2x - 14 = 0$.
   Calculate the size of angle p^0.

   $y = 4x - 5$

   $y + 2x - 14 = 0$

10. The diagram opposite shows the lines
    $y = 2x + 6$ and $x + y + 8 = 0$.
    Determine the size of angle a^0.

    $y = 2x + 6$

    $x + y + 8 = 0$