

- 1** Sketch the graphs of each of the following. Label axis intercepts and asymptotes:
 - a** $y = \frac{2}{x}$
 - b** $y = \frac{2}{x-1}$
 - c** $y = \frac{2}{x} + 1$
 - d** $y = \frac{2}{x+1} - 1$

- 2** Sketch the graphs of each of the following. Label axis intercepts and asymptotes:
 - a** $y = \frac{2}{(x-1)^2}$
 - b** $y = \frac{2}{(x+1)^2} - 1$

- 3** Sketch the graphs of each of the following:
 - a** $y = -\sqrt{x+2}$
 - b** $y = \sqrt{2x+1}$
 - c** $y = \sqrt{x-2} - 2$

- 4** State the coordinates of the centre and the length of the radius of the circle with the given equation:
 - a** $(x-4)^2 + (y+2)^2 = 16$
 - b** $x^2 + (y-2)^2 = 7$
 - c** $x^2 + y^2 - 6x + 8y = 0$

- 5** Find the axis intercepts of the circle with equation $(x-2)^2 + (y+3)^2 = 45$.

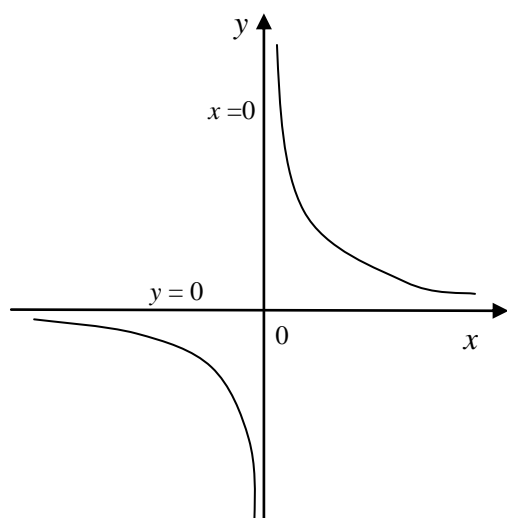
- 6** Find the equation of the tangent to the circle with equation $x^2 + y^2 = 8$ at the point:

a (2, 2)	b (-2, 2)
c (-2, -2)	d (2, -2)

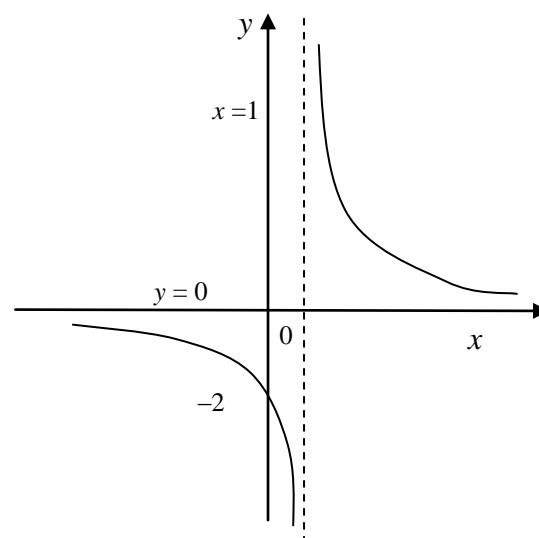
- 7**
 - a** Find the coordinates of the points of intersection of the line with equation $y = x$ and the circle $x^2 + y^2 = 1$.
 - b** Find the y -coordinates of the points of intersection of the curve with equation $y = x^2$ and the circle $x^2 + y^2 = 1$.
 - c** Find the x -coordinates of the points of intersection of the curve with equation $y = \sqrt{x}$ and the circle $x^2 + y^2 = 1$.

Answers

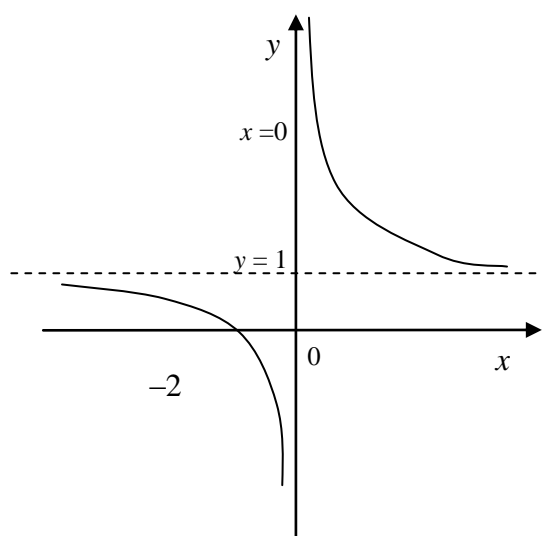
1 a



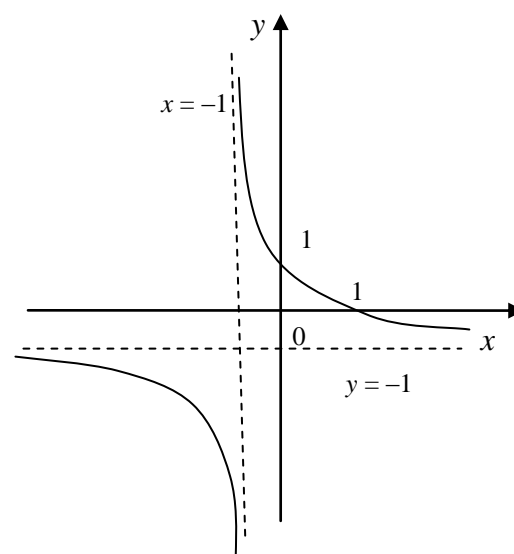
b



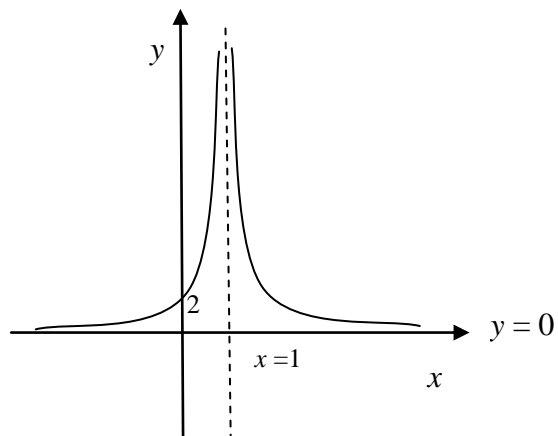
c



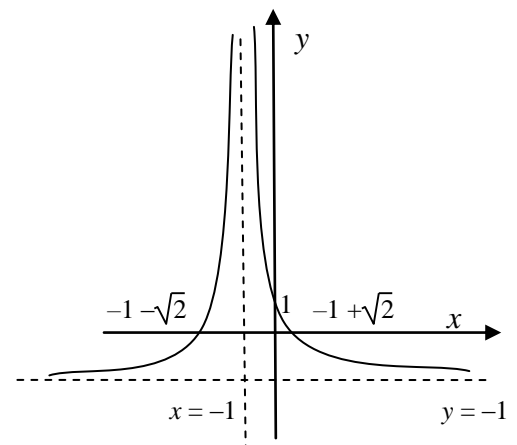
d



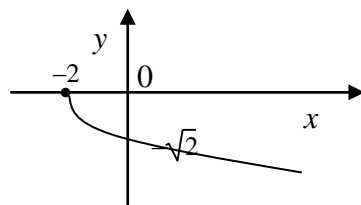
2 a



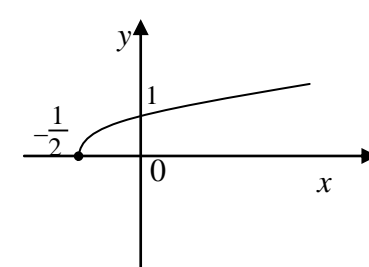
b



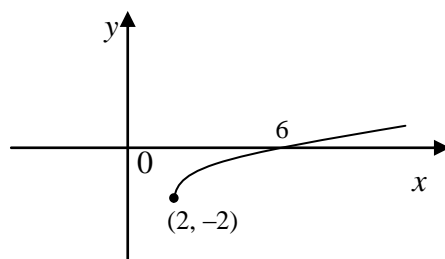
3 a



b



c



4 a $(4, -2), 4$

b $(0, 2), \sqrt{7}$

c $(3, -4), 5$

5 $y = -3 \pm \sqrt{41}, x = 8$ or $x = -4$

6 a $y = -x + 4$

b $y = x + 4$

c $y = -x - 4$

d $y = x - 4$

7 a $\left(\frac{1}{\sqrt{2}}, \frac{1}{\sqrt{2}}\right), \left(-\frac{1}{\sqrt{2}}, -\frac{1}{\sqrt{2}}\right)$

b $y = \frac{\sqrt{5}-1}{2}$

c $x = \frac{\sqrt{5}-1}{2}$