1. Sketch the graph of each of the following.
   (a) $y = |2x - 1|$ (b) $y = |(x - 1)(x - 2)|$ (c) $y = 3 + |x + 1|$
   (d) $y = |2x + 5| - 4$ (e) $y = |\sin x|$ (f) $y = |\ln x|$

2. Sketch the graphs of $y = |x + 1|$ and $y = |3x - 5|$ on the same diagram. Find the set of values of x such that $|x + 1| > |3x - 5|$.

3. Sketch the graphs of the functions $y = |x|$ and $y = |x^2 - 7x + 6|$ on the same diagram. Determine the set of values of x such that $|x| < |x^2 - 7x + 6|$.

4. Sketch the graph of $f(x) = x^2 - 3x$. On the same axes, sketch the graphs for the following functions.
   (a) $x^2 - 3x - 2$ (b) $x^2 - 7x + 10$ (c) $x^2 + x - 3$

5. Sketch the graph of $h(x) = \cos x$ for the domain $-\pi \le x \le \pi$. Hence, sketch the graphs for the following functions on the same axes.
   (a) $\cos x + 1$ (b) $2 \cos x$
   (c) $\cos \left(x + \dfrac{\pi}{2}\right)$ (d) $3 \cos \dfrac{1}{2}x$
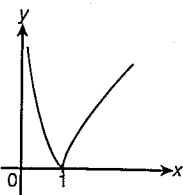

Exercise 6.6
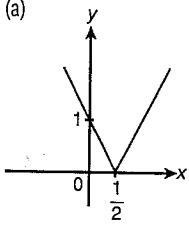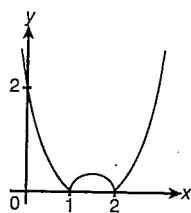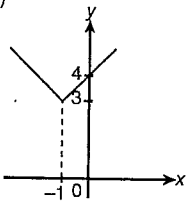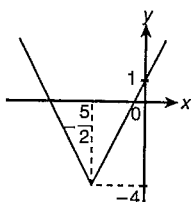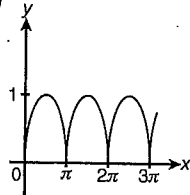
1. (a) (b)
   (c) (d)
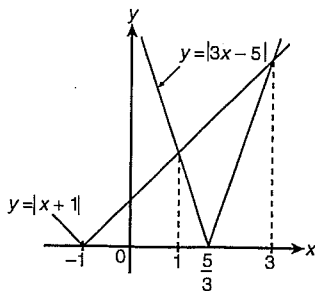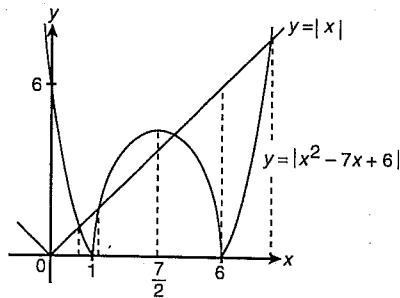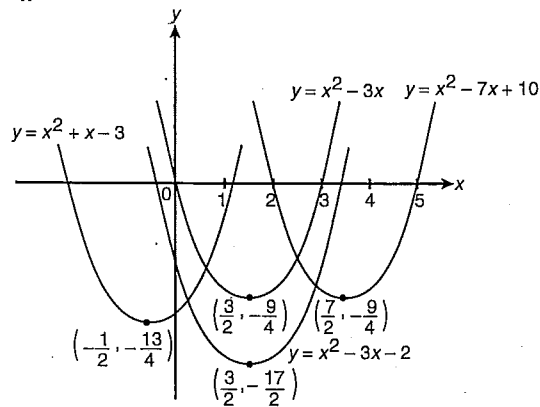   (e) (f)

2. $1 < x < 3$

3. $x < 4 - \sqrt{10}, 3 - \sqrt{3} < x < 3 + \sqrt{3}, x > 4 + \sqrt{10}$

4.

5.