

## Topic 23: Graph polynomial functions

1. Which one of the following statements best describes the behavior of the function  $f(x) = x(x-2)(x+3)^2$ ?

- (a) Crosses the x-axis at both  $x=2$  and  $x=-3$ .
- (b) Touches the x-axis at  $x=2$  but crosses at  $x=-3$ .
- (c) Crosses the x-axis at  $x=2$  but touches at  $x=-3$ .
- (d) Touches the x-axis at both  $x=2$  and  $x=-3$ .

2. Sketch the graph of each polynomial function.

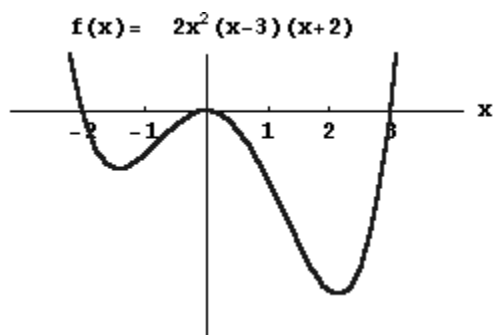
(a)  $f(x) = 2x^2(x-3)(x+2)$

(b)  $f(x) = (x-1)^2(x-3)$

Answers

1. c

2. (a)



(b)

