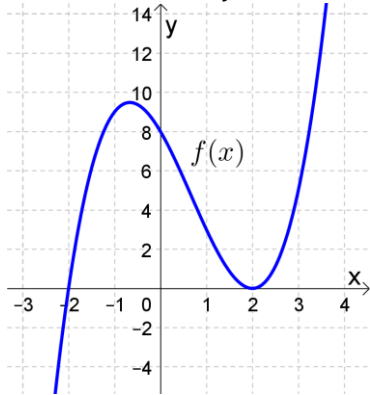


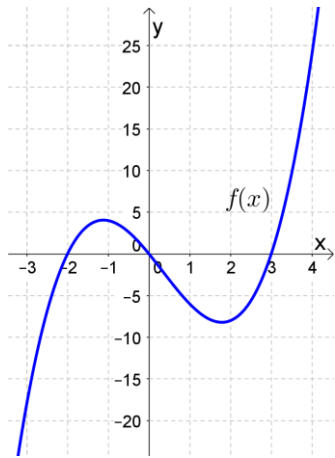
1. x -intercepts: $2, -2$; y -intercept: 8 ; Test points: $(-3, -25), (0, 8), (3, 5)$; As $x \rightarrow \infty, f(x) \rightarrow \infty$.

As $x \rightarrow -\infty, f(x) \rightarrow -\infty$.



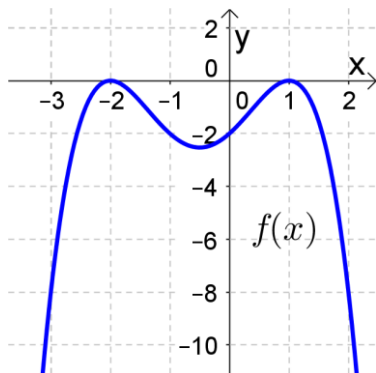
2.

- a) x -intercepts: $0, -2, 3$; y -intercept: 0
 b) $(-3, -18), (-1, 4), (1, -6), (4, 24)$
 c) As $x \rightarrow \infty, f(x) \rightarrow \infty$. As $x \rightarrow -\infty, f(x) \rightarrow -\infty$.
 d)



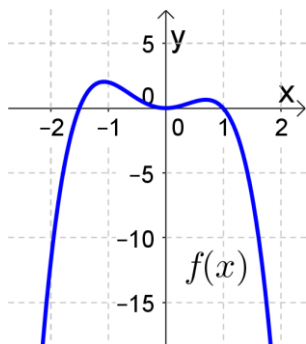
3.

- a) x -intercepts: $-2, 1$; y -intercept: -2
 b) $(-3, -8), (0, -2), (2, -8)$
 c) As $x \rightarrow \infty, f(x) \rightarrow -\infty$. As $x \rightarrow -\infty, f(x) \rightarrow -\infty$.
 d)



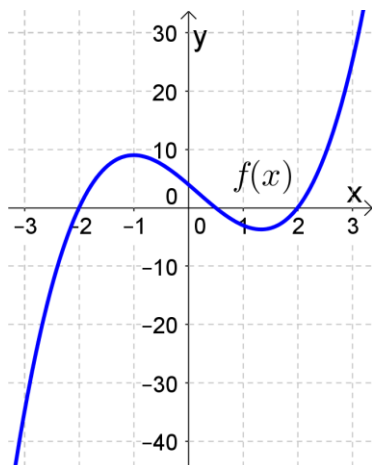
4.

- a) x -intercepts: $0, -\frac{3}{2}, 1$; y -intercept: 0
 b) $(-2, -12), (-1, 2), (\frac{1}{2}, \frac{1}{2}), (1.5, -6.75)$
 c) As $x \rightarrow \infty, f(x) \rightarrow -\infty$. As $x \rightarrow -\infty, f(x) \rightarrow -\infty$.
 d)



5.

- a) x -intercepts: $-2, \frac{1}{2}, 2$; y -intercept: 4
 b) $(-3, -35), (0, 4), (1, -3), (3, 25)$
 c) As $x \rightarrow \infty, f(x) \rightarrow \infty$. As $x \rightarrow -\infty, f(x) \rightarrow -\infty$.
 d)



6.

- a) -4 (odd multiplicity), 1 (even multiplicity), 3 (odd multiplicity)
 b) 3 turning points
 c) degree 4
 d) As $x \rightarrow \infty, P(x) \rightarrow -\infty$. As $x \rightarrow -\infty, P(x) \rightarrow -\infty$.

7.

- a) -5 (odd multiplicity), -3 (even multiplicity), 0 (even multiplicity)
 b) 4 turning points
 c) degree 5
 d) As $x \rightarrow \infty, f(x) \rightarrow \infty$. As $x \rightarrow -\infty, f(x) \rightarrow -\infty$.