Zeroes are where the function equals _____ and the term 'zeroes' means the same as _____.

Example 1: Finding the zeroes on a graph.

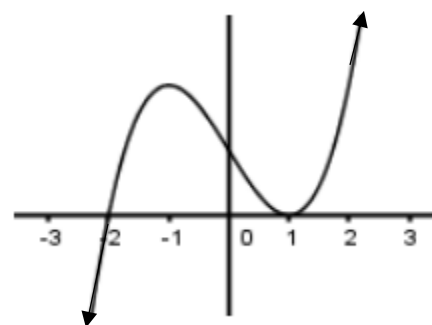   a) CIRCLE where the zeroes are on the graph.

$f(x)$
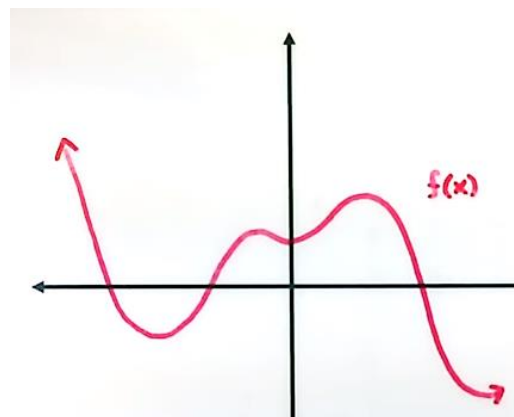
Example 2: Find the zeroes of $y = x(x - 8)(x + 7)$.

Example 3: Identfying Bounces in Graphs.

   a) Identify the zeroes in the graph.

   x =

   b) Write the equation of the polynomial in standard form.
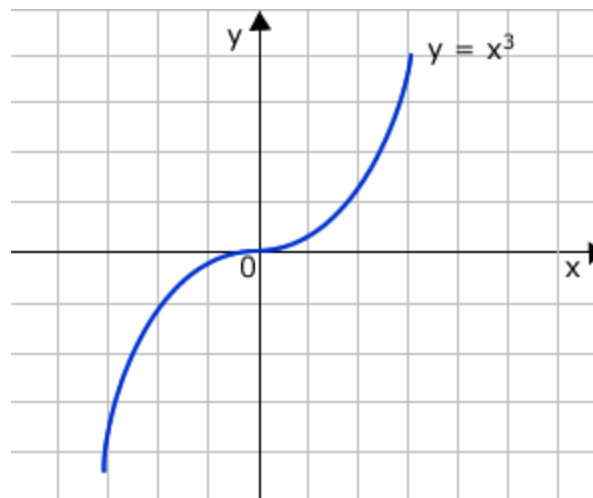
Example 4: Identfying Bounces in Functions.

   a) Find the zeroes of $y = (x + 2)^2$.

Example 5: Identifying Wiggles in Cubic Graphs.

a) Find the zeroes of the function.

   x =

b) Write the polynomial in **intercept form** (assuming the leading coefficient is 1).

Example 6: Identifying Wiggles in Cubic Functions.

Find the zeroes of the function $y = (x + 3)^3$

The **degree of a function** tells you how many _____ or zeroes there are.

Example 6: Classify the degree of the polynomial. How many roots for the function?
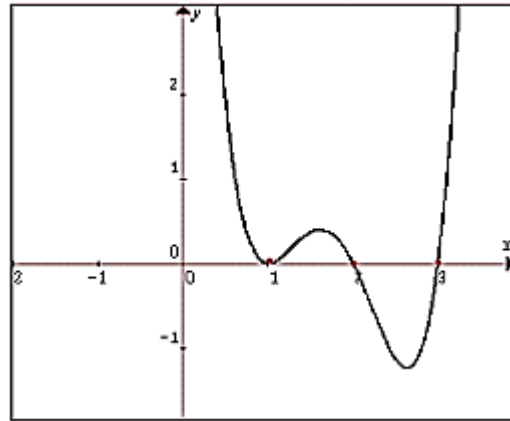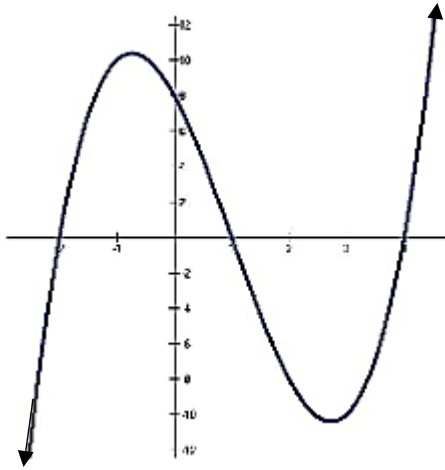
a) $y = x^2$ _____ _____

b) $y = x^3 - 3x^2 - 5$ _____ _____
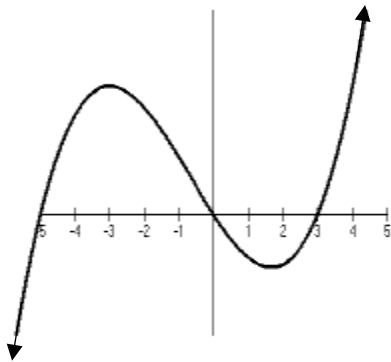
c) $y = x$ _____ _____

d) $y = (x - 3)^3(x - 3)^3$ _____ _____

e) $y = x^4 - 3x^3 - 5$ _____ _____

Practice: Identify the zeroes of the following functions. What is the degree?

Practice: Write the polynomial in **standard form** given the graph.

a) Find the zeroes of $y = x(x + 4)(x - 3)$.

b) Write in standard form.

a) Find the zeroes of $y = x(x - 4)^2$.

b) Write in standard form.