

**ANSWER to Question #90662 – Math – Calculus**

**Question**

Find the zeros of the polynomial function and state the multiplicity of each.

$$f(x) = 4(x + 7)^2(x - 7)^3$$

4, multiplicity 1; -7, multiplicity 3; 7, multiplicity 3

-7, multiplicity 3; 7, multiplicity 2

4, multiplicity 1; 7, multiplicity 1; -7, multiplicity 1

-7, multiplicity 2; 7, multiplicity 3

**Solution**

$$f(x) = 4(x + 7)^2(x - 7)^3$$

$$f(x) = 0 \Rightarrow x = -7, -7, 7, 7, 7$$

here zeros are -7 and 7 .

-7 is repeated 2 times and 7 is repeated 3 times hence multiplicity of zero -7 is 2 and multiplicity of zero 7 is 3.

Of the given options

-7, multiplicity 2; 7, multiplicity 3

is the correct option.

**Answer:** -7, multiplicity 2; 7, multiplicity 3.