

Name: ANSWER KEY

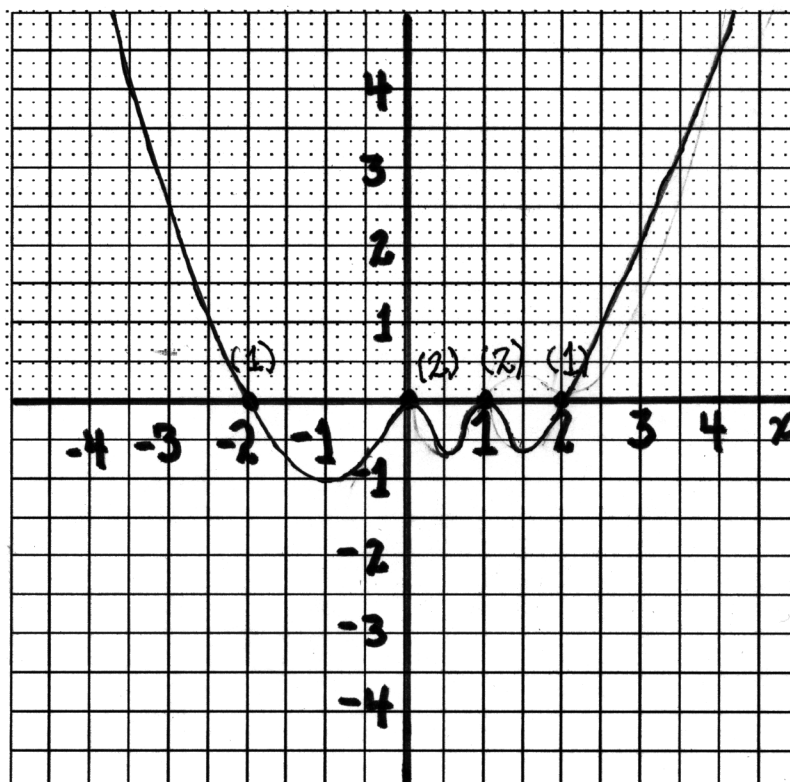
Score: _____

For the polynomial function $f(x) = x^2(x+2)(x-1)^2(x-2)$ (a) (2) Approximate f by a power function of the form $f(x) = ax^n$.

$$f(x) \approx x^2 \cdot x \cdot x^2 \cdot x = \boxed{x^6}$$

(b) (4) Give the zeroes of f , and for each zero give its multiplicity.

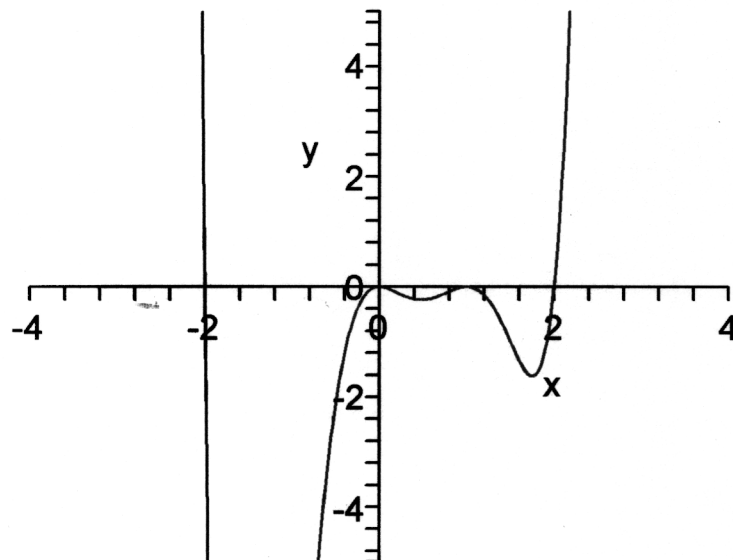
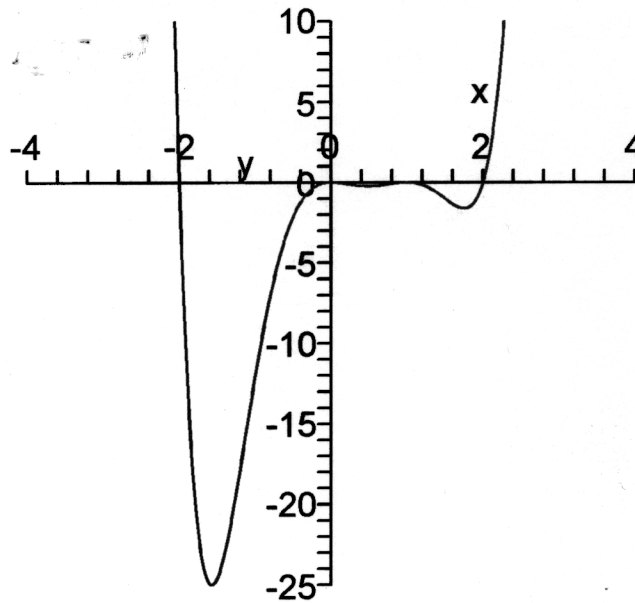
zero	Multiplicity
0	2
-2	1
1	2
2	1

(c) (4) Plot a schematic graph of f .

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> f:=x^2*(x+2)*(x-1)^2*(x-2);
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$$f := x^2 (x + 2) (x - 1)^2 (x - 2)$$

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> plot(f,x=-4..4,y=-25..10,numpoints=500); plot(f,x=-4..4,y=-5..5,numpoints=500);
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>
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